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Results for Greenland halibut, American plaice and Atlantic cod of the Spanish survey in NAFO Div. 3NO for the period 1997-2012

by

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Abstract

Greenland halibut (*Reinhardtius hippoglossoides*), American plaice (*Hippoglossoides platessoides*) and Atlantic cod (*Gadus morhua*) indices from the bottom trawl survey that Spain carries out in Spring since 1995 in Div. 3NO of the NAFO Regulatory Area are presented. Mean catch per tow, biomass, length for the three species are presented since 1997, year in which the survey extended the depth strata. For Greenland halibut and Atlantic cod the age distributions are presented, too. In 2001, the R/V *Vizconde de Eza* replaced the C/V *Playa de Menguña* in the execution of the survey. We present the transformed to the R/V *Vizconde de Eza* series for the period 1997-2000, and the original obtained data for the period 2002-2012. In 2001, there are data from the two vessels. Greenland halibut biomass and abundance estimates present a decreasing trend since 1999, cut in year 2007 with a slight increase and a high increase since 2008, reaching in 2009 the highest value in the series. In 2011-2012 the biomass drops under the 2008 value. In last years it can be seen a presence of juveniles, mainly in 2004, but the greatest lengths have failed, although in 2009 there is a quite good presence of individuals of ages 6-7 and in 2010 between 5-7. In 2011 and 2012 the presence of all the ages is poor. For American plaice we can see an increasing trend along the whole period, reaching a maximum of mean catch and number in 2006, following by the 2008 indices, cut in 2009 with a decrease in the indices, remains in a lower value than in the year 2003. The increase in 2010-2011 was following with a decrease in 2012. The greatest recruitment in the presented series occurred in 2004 and we can follow their mode along the years. No good recruitments were seen since then. For Atlantic cod it can be seen a general decreasing in the biomass between 2002 and 2005 and an increasing since then, especially in 2006 and, higher, in 2009-2011. The 2012 value is at the bit higher than the 2010 value. For this species, an increase in the recruitment can be seen in 2004 and 2005, and in 2007-2008 the youngest length classes were much over the rest of the length classes. With the 2006 cohort the series reaches the maximum number of its historical values at five years in 2011. There have been no good recruitments since 2009.

Material and Methods

Since 1995, Spain carries out a Spring-Summer survey in the NAFO Regulatory Area of Div. 3NO. To 2000, the survey was on board the C/V *Playa de Menguña* with a net trawl type *Pedreira*. In 2001 this vessel was replaced by the R/V *Vizconde de Eza*, using a trawl net type *Campelen*. To know more details about the technical specifications of the surveys, see Walsh *et al.*, 2001 and González Troncoso *et al.*, 2004.

The catch of each haul was sorted and weighted into species and a sample of each species was taken in order to measure the length distribution. For Greenland halibut, American plaice and Atlantic cod each individual of the sample was measured to the total length to the nearest lower cm. We present the indices for the period 1997-2012. In

1995 and 1996 only the less deep strata were surveyed, so these years are not representative for these species, thus they are not included in the analysis.

The number of valid tows, the depth strata covered and the dates of the survey series (1997-2012) are presented in Table 1. Table 2 shows the swept area and the tow number by strata and year.

For each species, all the indices are presented transformed until 2000 and no-transformed in the period 2002-2012. In year 2001 there are data transformed from the former vessel with original data from the new vessel. To know more about the transformation, see González-Troncoso *et al.*, 2005 and González-Troncoso *et al.*, 2006. We present per haul the mean catch, the stratified mean catch per tow and the biomass with their variance per year; the length distribution in number per haul stratified mean catches per length, sex and year; and for Greenland halibut and Atlantic cod the mean catches per tow age numbers with their mean length and mean weight by age. The age numbers were calculated starting from the stratified mean catches per haul length distribution applying the Age Length Key (ALK) for age-length keys. Weight at age was calculated by applying the length/weight relationship for each year to the mean length.

At the end of the document, in the Figure 19, we present maps with the distribution of the catches of the three species during the 2012 Spanish 3NO survey.

Results

Greenland halibut

The Greenland halibut stock in Subarea 2 and Div. 3KLMNO is considered to be part of a biological stock complex, which includes Subareas 0 and 1. Abundance and biomass indices were available from research vessel surveys by Canada in Div. 2J+3KLMNO (1978-2012), EU in Div. 3M (1988-2012) and EU-Spain in Div. 3NO (1995-2012). In 2003 the Fisheries Commission implemented a fifteen years rebuilding plan for this stock, establishing progressively decreasing TACs. The catches in 2004-2010 have exceeded the rebuilding plan TACs by 30% on average, despite reductions in fishing effort. In 2011, only STATLANT 21A catch data was available, so the data was inconsistent with regards last years assessment.

The exploitable biomass (age 5+) declined to low levels in 1995-97 due to very high catches and high fishing mortality. It increased during 1998-2000 due to greatly reduced catches, much lower fishing mortality and improved recruitment. Biomass increased over 2004-2008 with decreases in fishing mortality. However, it has shown decreases over 2008-2011, in part due to weaker year-classes recruiting to the biomass. The current assessment is based on surveys and the information over the past four years has been variable but generally shows a declining trend. Although the Canadian autumn survey has been somewhat stable over this period, the Canadian spring and EU Flemish Cap surveys have declined. The recruitment signal is also not consistent among these surveys – both Canadian surveys have shown some increases whereas the recruitment signal from the EU survey is quite pessimistic (NAFO, 2012).

Mean catches and Biomass

Table 3 shows the mean catches and their variance per haul and year for Greenland halibut. Mean weight per tow by stratum with the total variance per year are presented in Table 4 and in Figure 1 we compare these data with the mean number per tow. Table 5 and Figure 2 present the biomass per swept area per stratum and their total variance per year, as the biomass corresponding with the ages 5+ and 10+. In Table 6 we present the length-weight relationship parameters a and b .

Greenland halibut biomass decreased since 1999 to 2006, and from 2007 to 2010 the biomass increased, mainly in 2009 and 2010, when the biomass reaches the highest values in the series. In 2011 and in 2012, the biomass decreased to a half of the 2010 value, reaching the same level as in 2008. The lowest biomass value was in 2002. The biomass 5+ has had the same trend as the total biomass with a marked increase during 2008-2010, being the highest values of the series, and a decreasing in 2011-2012. Since 2007, the 5+ biomass represents more than the 90% of total biomass. In the case of the 10+ biomass, it has been increased since 2008, reaching the maximum in 2012. Despite of this, with respect to the mean number per tow, although in the 2008-2010 period there was a

substantial increase in the numbers, this increase is not as the increase in biomass, reaching the level of the 2001 numbers per town, but still far of the values of the first years of our series. Since 2009, there is a decrease in the numbers.

Length Distribution

Table 7 presents the stratified mean catches per haul length distribution for the Greenland halibut by sex and year, with the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the range of lengths met, as the total catch of this species and the total hauls made in the survey. In Figures 3 and 4 we can follow the evolution along the years. We can follow a mode since 1997 until 2001, but since then no high new values appears. The highest recruitments were in 1997, 2001 and 2004. In 2006 and 2007 the small individuals (around 12-14 cm, corresponding to 1 year of age) are the mode of the length distribution range, but all the length ranges were poor. The same occurred in 2011, with a mode in the lengths 14-15, that corresponds to age 1. In 2009 and 2010 an increase in number for lengths between 38-52 cm (ages 5-7) can be seen, but they almost disappear in 2011. It seems that the high increase in the biomass in 2009-2010 was due to the higher presence of these length classes, while at the beginning of the series the presence of juveniles was stronger. In 2012 the presence of all the length classes is poor.

Age numbers

We present the abundance at age per stratified mean catch by haul by sex and year in Table 8 and the total by year in Figure 5. Individuals between 0 and 20 years were caught in the period 1997-2012 and in last years (most since 2002) more number of younger individuals was caught. It can be due to the change of gear and/or vessel. We can follow three conspicuous cohorts in our series, the 1994-1996 cohorts (ages 1, 2 and 3 in 1997). Cohorts from following years seem to be weaker than those ones, but more constant. And 2001-2003 cohorts appear to be quite strong, as we can see in recent years, particularly 2002 one, and these cohorts seem to be present in year 2008 (ages 5 to 7) and in 2009 (ages 6 to 8). In 2010 the mode of the ages is between 5 and 7 years, which can imply that the cohorts of years 2004 and 2005 could be better than it can be seen in the graph. In 2012 there were two modes, one in age 2 and another in age 7, but the presence of both is very weak.

Mean length and mean weight

Mean length and weight at age by sex over time are presented in Tables 9 and 10, and shown in Figures 6 and 7. It seems that the greatest ages were increasing their mean length and weight until 2003, and falling in the youngest individuals. In 2012 the mean length and weight is more or less the same as in 2011, although it seems to be lower for the oldest ages. The total mean length and the total mean weight have an increase since 2006.

American plaice

There was no directed fishing of American plaice in 1994 and there has been a moratorium since 1995. Even under moratorium, catches increased substantially from 1995 to 2003 and then decreased. Biomass and SSB are very low compared to historic levels. SSB declined to the lowest estimated level in 1994 and 1995. It has increased since then but still remains very low. Recruitment has been generally poor for the past two decades; however, the 2003 year-class is the largest since the 1985 year-class (NAFO, 2012).

Mean catches and Biomass

American plaice haul mean catches and SD by stratum are presented in Table 11. Mean weight per tow by stratum and year and their SD are presented in Table 12.

The entire time series (1997-2012) of biomass and their SD estimates for American plaice are presented in Table 13. Estimated parameters a and b values of length-weight distribution are presented in Table 14.

The American plaice indices show a general increasing trend along the years, agree with the results from the Canadian surveys. We can see a decreasing in 2001 and 2002 and an increasing since then, reaching the maximum historical value in 2006 and 2008, with a virtually identical value, remained in 2007 at the same level than in 2005.

But in 2009 this increasing trend was broken and the value is below the 2001 value, both in weight and in numbers, following with a general increase in 2010-2012 (Figs. 8 and 9).

Length Distribution

Table 15 and Figures 10 and 11 show the stratified mean numbers per tow length distribution by sex and year, besides the sampled size and catch, for the period 1997-2012. The data have been grouped in 2 cm intervals. Between years 2000 and 2004 we can follow a mode that then disappeared; probably the 1998 year-class. In 2004 there is a great presence of juveniles (8 cm) and in 2005 the mode appears around 14 cm, following with a mode of around 20 cm in 2006, 24 in 2007, 26 in 2008 and 28 in 2009. This mode can be seen in around 30 cm in 2010, 32 cm in 2011 and 34 cm in 2012, but the mode length in those years is 28, as in 2009. In 2008 and 2010 there is a quite good presence of juveniles (individuals of 10-12 cm in 2008 and 12 cm in 2010) that does not appear in 2011-2012.

Atlantic cod

Atlantic cod in Divisions 3NO has been under moratorium to directed fishing since 1994. According to the NAFO Scientific Council, the stock of Atlantic cod in Divisions 3NO declined dramatically during the mid-1980s, and the total biomass and the spawning biomass are currently estimated to be at an extremely low level (NAFO, 2012).

Mean Catches and Biomass

The Atlantic cod haul mean catches and SD by stratum are presented in Table 16. Atlantic cod stratified mean catches per tow by stratum and year and their SD are presented in Table 17.

The entire time series (1997-2012) of biomass and their SD estimates for Atlantic cod are presented in Table 18. Estimated parameters a and b values of length-weight relationship are presented in Table 19.

We can see a great variation in the cod indices since 1997 to 2005, but this is due to a few hauls in which the presence of cod was very high. For example, in 1998 and 2001, the *C/V Playa de Menduña* made a more than seven tons cod catch in a single haul. Besides this, in 2001, the *R/V Vizconde de Eza* made two hauls with more than a ton of cod catches. But before year 2006, and apart from those hauls, the catches of cod were very poor. Between 2002 and 2005 there was a decreasing in the biomass. Since 2006, an increasing trend in the biomass of this species can be seen. Although the 2006 increase is above all for a single catch of almost 2 tons, in general the catches of Atlantic cod in the survey of 2006 were over the mean. In 2007 we can see a decrease in the biomass over the 2006 biomass, but still remains greater than in the 2002-2005 period. In 2008 a new high increase is shown, reaching the second highest value in the time series, and in this case there is no haul with very high catches (the maximum was 585.5 kg). In 2009-2012 the biomass reaches new maximums, well above the rest of the values of the series (Fig. 12 and 13).

Length Distribution

Table 20 and Figures 14 and 15 show the stratified mean catches per haul length distribution by year, besides the sampled size and its catch, for the period 1997-2012. The data have been grouped in two cm intervals. The modal values used to be very low before 2006 except in 2001, and in general all lengths presence is very low, even it is very difficult to follow the modal values. In 2001 we have a good presence of individuals between 36 and 58 cm. From 2006 a series of great modal values along the length distribution can be seen. In 2006 there is two modes in the length distribution, one around 30 cm and another one around 40 cm. There is no good recruitment until 2004, in which the individuals between 12 and 16 cm correspond to the greatest presence in the series, and in 2005 between 24 and 32, with a new mode between 12 and 16 cm, as in last year. In 2007 the youngest lengths dominate the length range, with the highest mode in the lengths 12-16, that are between 2 and 4 times the abundance of the 48 cm length class, the following mode. In 2008 and in 2009 we can follow the evolution of these lengths, being in 2008 the dominant lengths the ones between 20 and 26 and in 2009 between 30 and 36 cm. In 2010-2012 the mode followed the previous growth.

Age numbers

We present the mean number per tow at age by sex and by year in Table 21 and the total by year in Figure 16. Until 2006, the numbers are too low to follow any cohort. But between 2006 and 2008 there are three good cohorts that we can follow (2005-2007 cohorts). With the 2006 cohort the series reaches the maximum number of its historical values at five years in 2011. But it seems that no new good recruitments have occurred since 2009.

Mean length and mean weight

Mean length and weight at age by sex over time are presented in Tables 22 and 23, and shown in Figures 17 and 18. For the central ages, the mean length and the mean weight seem to be more or less stable. That do not occur in the oldest ages, with the two parameters very scattered. The total mean length and mean weight present no trend until 2006, with an increase since then.

References

- González Troncoso, D., C. González and X. Paz. 2004. American plaice biomass and abundance from the surveys conducted by Spain in the NAFO Regulatory Area of Divisions 3NO, 1995-2003. NAFO SCR Doc. 04/09, Serial Number N4954, 22 pp.
- González Troncoso, D., E. Román and X. Paz. 2004. Results for Greenland halibut from the surveys conducted by Spain in the NAFO Regulatory Area of Divisions 3NO, 1996-2003. NAFO SCR Doc. 04/11, Serial Number N4956, 16 pp.
- González Troncoso, D., E. Román and X. Paz. 2005. Results for Greenland halibut of the Spanish survey in NAFO Divisions 3NO: Biomass, length distribution and age distribution for the period 1997-2004. NAFO SCR Doc. 05/27, Serial Number N5113, 18 pp.
- González Troncoso, D., E. Román and X. Paz. 2006. Results for Greenland halibut and American plaice of the Spanish survey in NAFO Divisions 3NO: Biomass, length distribution and age distribution for the period 1997-2005. NAFO SCR Doc. 06/12, Serial Number N5227, 43 pp.
- NAFO, 2012. Report of Scientific Council Meeting, 1-14 June 2012.
- Walsh, J.S., X. Paz and P. Durán. 2001. A preliminary investigation of the efficiency of Canadian and Spanish Survey bottom trawls on the Southern Bank. NAFO SCR Doc., 01/74, Serial n° N4453, 18 pp.

TABLE 1.- Spanish spring bottom trawl surveys in NAFO Div. 3NO: 1997-2012

Year	Vessel	Valid tows	Depth strata covered (m)	Dates
1997	<i>C/V Playa de Mendiña</i>	128	42-1263	April 26-May 18
1998	<i>C/V Playa de Mendiña</i>	124	42-1390	May 06-May 26
1999	<i>C/V Playa de Mendiña</i>	114	41-1381	May 07-May 26
2000	<i>C/V Playa de Mendiña</i>	118	42-1401	May 07-May 28
2001 ^(*)	<i>R/V Vizconde de Eza</i>	83	36-1156	May 03-May 24
	<i>C/V Playa de Mendiña</i>	121	40-1500	May 05-May 23
2002	<i>R/V Vizconde de Eza</i>	125	38-1540	April 29-May 19
2003	<i>R/V Vizconde de Eza</i>	118	38-1666	May 11-June 02
2004	<i>R/V Vizconde de Eza</i>	120	43-1539	June 06-June 24
2005	<i>R/V Vizconde de Eza</i>	119	47-1485	June 10-June 29
2005	<i>R/V Vizconde de Eza</i>	119	47-1485	June 10-June 29
2006	<i>R/V Vizconde de Eza</i>	120	45-1480	June 7-June 27
2007	<i>R/V Vizconde de Eza</i>	110	45-1374	May 29-June 19
2008	<i>R/V Vizconde de Eza</i>	122	45-1374	May 27-June 16
2009	<i>R/V Vizconde de Eza</i>	109	45-1374	May 31-June 18
2010	<i>R/V Vizconde de Eza</i>	95	45-1374	May 30-June 18
2011	<i>R/V Vizconde de Eza</i>	122	44-1450	June 5-June 24
2012	<i>R/V Vizconde de Eza</i>	122	44-1450	June 3-June 21

(*)For the calculation of the series, 83 hauls were taken from the *R/V Vizconde de Eza* and 40 hauls from the *C/V Playa de Mendiña* (123 hauls in total)

TABLE 2.- Swept area and number of hauls by stratum. Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are from C/V *Playa de Mendiña* data, and 2002-2012 data are from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997		1998		1999		2000		2001		2002		2003		2004	
	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number
353	0.0480	4	0.0465	4	0.0360	3	0.0356	3	0.0341	3	0.0476	4	0.0334	3	0.0338	3
354	0.0233	2	0.0356	3	0.0218	2	0.0356	3	0.0338	3	0.0356	3	0.0338	3	0.0345	3
355	0.0233	2	0.0221	2	0.0229	2	0.0233	2	0.0240	2	0.0236	2	0.0229	2	0.0229	2
356	0.0225	2	0.0221	2	0.0229	2	0.0225	2	0.0240	2	0.0233	2	0.0225	2	0.0221	2
357	0.0443	4	0.0240	2	0.0236	2	0.0124	1	0.0244	2	0.0240	2	0.0229	2	0.0229	2
358	0.0563	5	0.0236	3	0.0349	3	0.0341	3	0.0345	3	0.0345	3	0.0338	3	0.0330	3
359	0.0690	6	0.0698	6	0.0364	3	0.0469	4	0.0803	7	0.0686	6	0.0791	7	0.0791	7
360	0.3754	32	0.2561	25	0.2325	19	0.2396	20	0.2423	20	0.2865	25	0.2254	20	0.2310	20
374	0.0353	3	0.0353	3	0.0244	2	0.0240	2	0.0240	2	0.0345	3	0.0225	2	0.0233	2
375	0.0116	1	0.0345	3	0.0236	2	0.0244	2	0.0338	3	0.0353	3	0.0330	3	0.0338	3
376	0.1583	14	0.0930	10	0.1219	10	0.1200	10	0.1155	10	0.1140	10	0.1125	10	0.1166	10
377	0.0116	1	0.0229	2	0.0240	2	0.0229	2	0.0229	2	0.0229	2	0.0225	2	0.0218	2
378	0.0210	2	0.0120	2	0.0229	2	0.0233	2	0.0236	2	0.0233	2	0.0225	2	0.0225	2
379	0.0206	2	0.0356	3	0.0236	2	0.0225	2	0.0229	2	0.0229	2	0.0229	2	0.0124	1
380	0.0210	2	0.0113	2	0.0236	2	0.0236	2	0.0206	2	0.0225	2	0.0229	2	0.0221	2
381	0.0221	2	0.0229	2	0.0229	2	0.0236	2	0.0236	2	0.0229	2	0.0229	2	0.0225	2
382	0.0461	4	0.0229	3	0.0484	4	0.0499	4	0.0469	4	0.0341	3	0.0454	4	0.0461	4
721	0.0221	2	0.0203	2	0.0244	2	0.0236	2	0.0248	2	0.0233	2	0.0225	2	0.0221	2
722	0.0214	2	0.0101	2	0.0229	2	0.0218	2	0.0233	2	0.0236	2	0.0221	2	0.0218	2
723	0.0210	2	0.0233	2	0.0229	2	0.0248	2	0.0240	2	0.0233	2	0.0229	2	0.0229	2
724	0.0225	2	0.0206	2	0.0225	2	0.0233	2	0.0353	3	0.0225	2	0.0225	2	0.0214	2
725	0.0206	2	0.0086	1	0.0229	2	0.0210	2	0.0116	1	0.0225	2	0.0229	2	0.0225	2
726	n.s.	n.s.	0.0094	2	0.0225	2	0.0221	2	0.0116	1	0.0214	2	0.0225	2	0.0225	2
727	0.0094	1	0.0233	2	0.0236	2	0.0210	2	0.0225	2	0.0233	2	0.0218	2	0.0233	2
728	0.0214	2	0.0206	2	0.0233	2	0.0210	2	0.0229	2	0.0229	2	0.0225	2	0.0180	2
752	0.0218	2	0.0229	2	0.0233	2	0.0206	2	0.0210	2	0.0116	1	0.0229	2	0.0214	2
753	0.0214	2	0.0218	2	0.0229	2	0.0218	2	0.0214	2	0.0229	2	0.0229	2	0.0218	2
754	0.0330	3	0.0210	2	0.0206	2	0.0195	2	0.0195	2	0.0341	3	0.0218	2	0.0214	2
755	n.s.	n.s.	0.0206	2	0.0311	3	0.0431	4	0.0416	4	0.0338	3	0.0221	2	0.0319	3
756	0.0109	1	0.0225	2	0.0225	2	0.0203	2	0.0113	1	0.0229	2	0.0221	2	0.0218	2
757	0.0304	3	0.0206	2	0.0233	2	0.0214	2	0.0233	2	0.0225	2	0.0221	2	0.0218	2
758	0.0214	2	0.0105	2	0.0214	2	0.0210	2	0.0218	2	0.0225	2	0.0221	2	0.0214	2
759	n.s.	n.s.	0.0214	2	0.0218	2	0.0210	2	0.0221	2	0.0225	2	0.0113	1	0.0214	2
760	0.0105	1	0.0214	2	0.0225	2	0.0210	2	0.0229	2	0.0229	2	0.0218	2	0.0221	2
761	0.0315	3	0.0206	2	0.0210	2	0.0221	2	0.0225	2	0.0225	2	0.0225	2	0.0221	2
762	0.0308	3	0.0094	2	0.0210	2	0.0203	2	0.0116	1	0.0225	2	0.0225	2	0.0233	2
763	n.s.	n.s.	0.0218	2	0.0311	3	0.0416	4	0.0330	3	0.0225	2	0.0311	3	0.0326	3
764	0.0206	2	0.0218	2	0.0225	2	0.0218	2	0.0240	2	0.0236	2	0.0221	2	0.0229	2
765	0.0206	2	0.0098	2	0.0221	2	0.0203	2	0.0113	1	0.0236	2	0.0113	1	0.0225	2
766	0.0308	3	0.0191	2	0.0218	2	0.0214	2	0.0203	2	0.0233	2	0.0225	2	0.0225	2
767	n.s.	n.s.	0.0109	2	0.0214	2	0.0210	2	0.0218	2	0.0225	2	0.0229	2	0.0218	2

TABLE 2 (cont.).- Swept area and number of hauls by stratum. Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are from *C/V Playa de Mendiña* data, and 2002-2012 data are from *R/V Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	2005		2006		2007		2008		2009		2010		2011		2012	
	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number	Swept area	Tow number
353	0.0353	3	0.0371	3	0.0364	3	0.0341	3	0.0345	3	0.0225	2	0.0349	3	0.0338	3
354	0.0353	3	0.0364	3	0.0364	3	0.0345	3	0.0338	3	0.0225	2	0.0345	3	0.0338	3
355	0.0225	2	0.0248	2	0.0240	2	0.0221	2	0.0233	2	0.0229	2	0.0233	2	0.0229	2
356	0.0233	2	0.0240	2	0.0240	2	0.0236	2	0.0229	2	0.0225	2	0.0229	2	0.0225	2
357	0.0233	2	0.0244	2	0.0360	3	0.0233	2	0.0116	2	0.0225	2	0.0225	2	0.0229	2
358	0.0349	3	0.0349	3	0.0368	3	0.0345	3	0.0341	3	0.0225	2	0.0345	3	0.0330	3
359	0.0814	7	0.0975	8	0.0855	7	0.0799	7	0.0795	7	0.0705	6	0.0806	7	0.0806	7
360	0.2325	20	0.2340	19	0.2378	20	0.2340	20	0.2273	20	0.1628	14	0.2374	20	0.2344	20
374	0.0229	2	0.0236	2	0.0240	2	0.0233	2	0.0225	2	0.0225	2	0.0225	2	0.0229	2
375	0.0349	3	0.0364	3	0.0364	3	0.0334	3	0.0341	3	0.0364	3	0.0360	3	0.0349	3
376	0.1174	10	0.1219	10	0.1185	10	0.1129	10	0.1133	10	0.0788	7	0.1178	10	0.1181	10
377	0.0233	2	0.0236	2	0.0240	2	0.0233	2	0.0225	2	0.0233	2	0.0233	2	0.0229	2
378	0.0225	2	0.0240	2	0.0233	2	0.0240	2	0.0229	2	0.0225	2	0.0240	2	0.0229	2
379	0.0236	2	0.0236	2	0.0240	2	0.0229	2	0.0229	2	0.0229	2	0.0221	2	0.0225	2
380	0.0229	2	0.0229	2	0.0240	2	0.0225	2	0.0229	2	0.0236	2	0.0229	2	0.0229	2
381	0.0233	2	0.0229	2	0.0240	2	0.0229	2	0.0229	2	0.0244	2	0.0233	2	0.0221	2
382	0.0458	4	0.0469	4	0.0484	4	0.0458	4	0.0450	4	0.0233	2	0.0450	4	0.0454	4
721	0.0229	2	0.0236	2	0.0116	1	0.0225	2	0.0229	2	0.0225	2	0.0229	2	0.0233	2
722	0.0233	2	0.0240	2	0.0225	2	0.0206	2	0.0225	2	0.0225	2	0.0225	2	0.0221	2
723	0.0233	2	0.0236	2	0.0240	2	0.0225	2	0.0225	2	0.0225	2	0.0218	2	0.0225	2
724	0.0225	2	0.0233	2	0.0233	2	0.0221	2	0.0233	2	0.0229	2	0.0233	2	0.0225	2
725	0.0236	2	0.0233	2	0.0225	2	0.0229	2	0.0229	2	0.0233	2	0.0240	2	0.0225	2
726	0.0113	1	0.0225	2	0.0229	2	0.0225	2	0.0229	2	0.0233	2	0.0225	2	0.0221	2
727	0.0229	2	0.0225	2	0.0240	2	0.0221	2	0.0113	1	0.0240	2	0.0225	2	0.0233	2
728	0.0109	1	0.0225	2	0.0225	2	0.0221	2	0.0229	2	0.0240	2	0.0229	2	0.0229	2
752	0.0236	2	0.0225	2	0.0225	2	0.0218	2	0.0229	2	0.0240	2	0.0236	2	0.0229	2
753	0.0225	2	0.0225	2	0.0225	2	0.0221	2	0.0116	1	n.s.	n.s.	0.0225	2	0.0221	2
754	0.0225	2	0.0225	2	0.0225	2	0.0218	2	0.0113	1	0.0225	2	0.0225	2	0.0221	2
755	0.0450	4	0.0338	3	0.0338	3	0.0431	4	0.0116	1	0.0120	1	0.0454	4	0.0446	4
756	0.0233	2	0.0229	2	0.0225	2	0.0218	2	0.0225	2	0.0225	2	0.0206	2	0.0221	2
757	0.0225	2	0.0225	2	0.0229	2	0.0221	2	0.0229	2	0.0221	2	0.0236	2	0.0214	2
758	0.0225	2	0.0225	2	0.0225	2	0.0218	2	0.0225	2	0.0225	2	0.0225	2	0.0221	2
759	0.0229	2	0.0225	2	n.s.	n.s.	0.0221	2	0.0113	1	0.0225	2	0.0218	2	0.0221	2
760	0.0229	2	0.0225	2	0.0233	2	0.0225	2	0.0229	2	0.0225	2	0.0214	2	0.0225	2
761	0.0221	2	0.0233	2	0.0225	2	0.0214	2	0.0225	2	0.0229	2	0.0236	2	0.0221	2
762	0.0225	2	0.0233	2	n.s.	n.s.	0.0214	2	0.0225	2	0.0229	2	0.0225	2	0.0225	2
763	0.0334	3	0.0225	2	n.s.	n.s.	0.0311	3	n.s.	n.s.	n.s.	n.s.	0.0349	3	0.0330	3
764	0.0233	2	0.0233	2	0.0225	2	0.0221	2	0.0116	1	n.s.	n.s.	0.0225	2	0.0225	2
765	0.0229	2	0.0236	2	0.0225	2	0.0214	2	0.0225	2	0.0225	2	0.0225	2	0.0229	2
766	0.0229	2	0.0229	2	n.s.	n.s.	0.0218	2	0.0225	2	0.0225	2	0.0225	2	0.0225	2
767	0.0113	1	0.0233	2	n.s.	n.s.	0.0214	2	n.s.	n.s.	n.s.	n.s.	0.0233	2	0.0203	2

TABLE 3.- Greenland halibut mean catch (kg) and SD by stratum. Spanish Spring Surveys in NAFO 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997		1998		1999		2000		2001		2002		2003		2004	
	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD
353	0.06	0.053	1.37	1.274	0.61	0.569	0.19	0.178	0.03	0.038	0.21	0.278	0.01	0.013	1.44	2.395
354	0.70	0.095	2.36	1.246	0.86	0.781	0.11	0.057	3.22	1.927	0.85	0.839	0.04	0.029	1.51	2.160
355	4.07	0.230	0.29	0.066	0.22	0.295	0.22	0.274	17.25	15.486	0.43	0.467	2.46	2.492	4.02	5.119
356	4.11	1.871	4.27	4.759	0.23	0.174	0.49	0.043	0.07	0.042	1.40	1.131	2.95	3.695	3.35	3.873
357	1.08	1.341	8.40	6.433	1.69	0.276	0.11	-	2.69	2.135	1.15	1.626	6.72	5.070	1.50	0.521
358	1.38	1.168	2.35	1.843	4.10	3.155	0.48	0.529	8.46	12.298	3.20	0.819	3.45	5.973	0.94	0.438
359	0.66	0.623	0.22	0.185	2.15	3.725	1.35	2.014	1.97	2.329	0.28	0.219	0.30	0.438	1.18	2.137
360	0.04	0.183	0.04	0.158	0.31	0.918	0.13	0.352	0.17	0.484	0.00	0.007	0.02	0.056	0.11	0.459
374	0.00	0.000	0.05	0.080	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.005
375	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.002	0.00	0.000
376	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.003	0.00	0.000
377	0.00	-	0.03	0.039	0.48	0.683	0.16	0.221	0.42	0.537	0.00	0.001	1.55	1.884	0.07	0.011
378	0.78	0.985	0.66	0.873	1.03	0.330	1.09	1.214	5.69	8.040	1.85	0.636	2.97	3.008	0.38	0.530
379	2.23	1.031	1.88	0.826	0.96	0.013	1.23	0.880	4.61	4.236	5.85	4.313	7.67	5.275	2.60	-
380	2.64	1.210	2.48	2.022	3.94	1.326	2.42	1.447	4.06	0.066	5.05	3.041	4.345	0.205	10.3	0.424
381	0.21	0.009	0.70	0.144	2.82	0.985	1.36	0.352	0.90	1.271	0.5275	0.145	1.06	1.188	5.488	6.701
382	0.00	0.000	0.04	0.064	0.00	0.001	0.12	0.147	0.05	0.080	0.401	0.683	0.045	0.061	0.0575	0.068
721	2.98	1.053	11.82	9.833	0.62	0.249	0.48	0.681	0.40	0.431	0.08	0.062	0.12	0.051	1.92	0.693
722	1.53	2.163	24.84	1.628	13.36	7.909	19.49	9.977	1.09	0.863	2.63	2.906	1.66	0.410	24.04	23.144
723	5.16	2.543	5.32	1.956	11.07	10.916	2.85	1.094	1.33	0.240	1.24	1.075	4.02	5.416	3.85	3.755
724	1.92	0.624	8.40	1.044	4.55	1.181	5.83	2.179	3.45	2.786	4.75	1.202	7.07	4.971	12.45	3.182
725	7.85	4.225	2.07	-	4.97	5.763	10.03	8.796	2.67	0.522	7.35	6.718	10.55	0.778	19.57	19.537
726	n.s.	n.s.	27.96	33.187	29.04	26.314	12.95	3.348	3.65	1.200	3.25	3.323	0.00	0.000	14.71	1.287
727	5.16	-	7.80	6.754	10.48	8.316	2.65	1.181	3.79	0.243	2.01	1.400	18.48	11.066	20.47	10.281
728	36.24	23.055	57.21	56.042	62.32	12.655	29.91	0.098	8.62	1.654	7.93	10.986	39.95	17.748	5.70	4.950
752	36.90	9.964	54.22	23.669	56.93	8.677	23.33	1.989	26.37	8.723	0.34	-	39.80	39.032	4.64	5.424
753	32.43	8.270	33.32	8.507	64.23	4.417	49.77	21.700	22.66	4.883	2.45	3.465	16.64	12.721	4.37	0.820
754	18.70	4.941	17.32	4.706	17.12	11.204	46.69	14.381	41.09	41.477	20.33	4.996	19.12	6.484	3.21	0.007
755	n.s.	n.s.	19.07	0.177	15.94	8.279	35.73	20.076	27.16	16.279	0.46	0.655	1.88	2.652	2.64	4.567
756	68.36	-	220.13	34.559	125.28	46.721	60.60	40.187	30.10	16.124	10.55	14.920	23.11	27.994	14.99	4.609
757	34.70	10.823	95.25	21.628	106.53	27.496	37.41	10.108	42.23	4.326	9.95	2.192	2.49	2.348	4.55	6.435
758	39.36	23.502	52.55	9.813	52.72	11.736	56.67	11.487	42.11	8.828	17.15	1.485	0.00	0.000	9.73	3.714
759	n.s.	n.s.	48.19	35.497	44.72	44.096	29.43	8.579	76.11	21.890	2.15	3.041	21.61	-	4.43	3.203
760	10.44	-	32.89	28.743	44.98	46.019	30.56	2.862	9.42	10.861	4.75	4.172	19.38	13.188	14.63	7.958
761	61.90	36.985	46.01	16.364	37.88	1.004	36.09	26.813	8.10	7.778	16.65	16.900	13.26	3.387	2.92	1.996
762	45.89	27.172	38.22	15.038	63.34	37.289	36.37	1.726	22.50	21.072	2.11	1.563	34.91	19.622	8.44	4.349
763	n.s.	n.s.	35.02	27.312	21.44	8.946	25.64	21.799	31.61	22.554	0.74	1.047	1.75	3.037	20.78	9.792
764	20.63	2.422	21.31	10.686	28.81	12.412	16.96	6.498	53.64	1.888	6.95	5.869	28.37	15.882	33.78	29.165
765	35.43	14.289	22.82	3.131	31.43	0.328	37.13	30.587	35.87	13.111	45.90	39.739	31.80	-	20.98	8.464
766	62.87	9.784	20.82	3.479	31.31	20.000	16.76	2.475	16.42	9.557	9.53	1.025	8.91	1.966	8.46	11.958
767	n.s.	n.s.	10.21	50.629	25.90	9.786	21.21	6.393	5.72	2.593	0.85	1.202	15.96	21.270	1.26	1.782

TABLE 3 (cont.).- Greenland halibut mean catch (kg) and SD by stratum. Spanish Spring Surveys in NAFO 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	2005		2006		2007		2008		2009		2010		2011		2012	
	G. halibut Mean	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean catch	G. halibut SD	G. halibut Mean	G. halibut SD	G. halibut Mean	G. halibut SD
353	1.92	2.694	1.44	1.561	0.04	0.014	0.075	0.071	0.052	0.045	0.043	0.060	0.78	0.820	0.36	0.464
354	3.13	4.202	0.77	0.981	4.90	7.475	0.780	0.716	0.000	0.000	0.805	0.028	0.08	0.143	0.30	0.399
355	1.36	0.849	3.39	0.858	1.97	2.242	11.719	16.096	0.025	0.035	5.164	3.728	2.44	2.730	0.73	0.790
356	0.92	0.973	4.85	3.910	1.74	1.725	0.172	0.040	0.000	0.000	3.408	0.371	1.48	0.371	0.14	0.195
357	1.20	0.817	0.27	0.299	7.31	7.944	2.856	1.450	1.647	0.610	1.767	0.756	0.18	0.136	0.13	0.101
358	1.91	3.063	0.05	0.056	0.44	0.445	5.547	7.618	0.024	0.029	8.233	11.437	0.27	0.385	0.00	0.000
359	0.35	0.364	0.00	0.000	0.02	0.030	0.243	0.329	0.000	0.000	0.185	0.396	0.06	0.085	0.06	0.131
360	0.29	1.075	0.14	0.376	0.00	0.008	0.029	0.100	0.014	0.045	0.031	0.102	0.00	0.020	0.00	0.000
374	0.00	0.000	0.00	0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.00	0.000
375	0.00	0.000	0.00	0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.00	0.000
376	0.00	0.004	0.00	0.006	0.00	0.003	0.000	0.000	0.081	0.253	0.000	0.000	0.00	0.000	0.00	0.000
377	1.34	1.898	0.40	0.526	0.00	0.006	0.222	0.266	0.072	0.022	0.011	0.016	0.01	0.018	0.00	0.000
378	0.02	0.005	0.56	0.668	0.39	0.516	1.470	0.485	0.012	0.017	1.105	1.563	0.04	0.030	0.00	0.000
379	3.72	3.370	0.61	0.418	2.06	0.862	0.708	0.823	0.270	0.382	0.548	0.006	2.26	3.071	4.56	3.484
380	34.1	23.617	21.445	6.159	5.673	7.770	12.050	5.586	1.409	0.836	2.548	2.421	4.53	0.997	3.30	1.115
381	6.248	3.948	19.358	5.009	0.7345	0.855	2.859	4.018	0.100	0.083	0.101	0.083	0.68	0.022	0.01	0.015
382	0.49	0.571	3.712	3.749	0.014	0.020	0.038	0.069	0.000	0.000	0.000	0.000	0.00	0.003	0.00	0.000
721	0.99	0.131	0.51	0.714	0.66	-	1.791	1.154	16.005	20.923	6.980	7.836	17.80	7.872	3.90	1.196
722	23.29	12.887	1.75	2.468	12.87	3.097	16.244	3.406	11.325	4.702	44.800	24.749	22.12	2.069	33.38	39.300
723	2.68	2.271	6.89	3.149	3.31	0.523	1.652	0.457	7.588	8.884	7.225	7.336	7.03	9.685	7.77	3.396
724	11.98	10.925	22.49	13.740	11.58	5.699	4.603	2.784	25.675	21.178	31.310	7.623	13.85	2.190	14.99	8.910
725	17.37	18.374	11.81	2.819	10.72	11.836	0.005	0.006	3.095	0.276	11.305	8.337	5.73	1.136	6.16	0.697
726	12.24	-	2.36	1.146	8.90	3.702	6.194	4.514	213.215	217.457	37.450	9.405	20.33	2.871	25.33	1.223
727	19.28	7.582	8.80	2.121	21.96	1.640	64.950	17.890	3.982	-	72.685	37.823	26.29	10.165	37.78	33.121
728	0.84	-	4.36	0.836	18.98	21.814	21.700	12.445	32.950	2.333	110.470	78.814	47.33	20.046	18.77	10.281
752	5.66	2.482	6.10	0.898	5.34	7.552	17.900	7.071	130.950	130.178	60.800	15.981	24.10	9.751	21.96	3.592
753	9.00	1.107	4.06	4.380	6.99	7.792	18.795	7.785	45.100	-	n.s.	n.s.	26.57	0.332	27.90	10.889
754	4.60	6.498	0.65	0.919	20.96	1.612	24.450	11.809	113.100	-	65.350	30.476	20.90	17.819	23.42	1.294
755	5.61	4.039	4.12	5.260	7.30	2.970	26.838	13.282	27.600	-	46.400	-	15.09	11.234	14.12	7.497
756	7.11	0.308	6.54	6.739	16.63	17.637	38.650	7.849	18.850	0.919	128.972	50.447	23.30	13.440	33.86	31.106
757	6.81	3.422	5.58	1.520	35.49	37.929	34.185	16.426	58.216	21.898	48.315	7.191	12.38	2.714	46.23	41.684
758	11.25	1.775	13.44	14.665	22.09	15.330	44.710	19.361	61.750	3.182	72.300	48.932	10.83	3.917	27.56	4.780
759	9.03	12.763	0.46	0.651	n.s.	n.s.	53.289	44.846	140.080	-	66.950	33.0219	18.27	14.467	22.09	7.7570
760	4.77	2.843	8.97	6.672	16.31	5.706	26.785	5.197	40.025	21.602	54.300	23.476	30.50	33.375	32.07	11.358
761	6.61	5.172	5.18	3.603	13.82	2.440	13.611	12.464	44.265	20.457	54.635	37.724	36.28	12.862	33.38	18.634
762	13.23	3.500	16.55	21.529	n.s.	n.s.	27.274	24.047	53.850	9.4045	68.150	55.6493	41.67	8.437	14.68	7.1552
763	5.06	6.575	7.07	2.920	n.s.	n.s.	19.762	14.378	n.s.	n.s.	n.s.	n.s.	17.93	11.358	27.47	17.7091
764	4.07	5.756	13.46	2.380	18.67	4.197	19.406	9.965	17.340	-	n.s.	n.s.	32.86	11.566	35.52	16.263
765	18.44	0.926	13.00	14.333	24.07	8.167	26.025	19.311	53.062	29.470	31.615	15.620	14.02	6.512	20.79	0.509
766	9.33	13.198	3.69	2.534	n.s.	n.s.	12.829	7.877	10.415	1.011	26.365	9.836	15.10	8.372	25.59	22.436
767	0.00	-	0.80	1.131	n.s.	n.s.	6.409	4.653	n.s.	n.s.	n.s.	n.s.	18.02	19.176	4.42	1.7253

TABLE 4.- Stratified mean catches (Kg) by stratum and year and SD by year of Greenland halibut (1997-2012). n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Menguña* data (by FPC). 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
353	16	368	165	50	7	57	2	388	516	386	11	20	14	11	211	96
354	172	582	211	28	793	210	10	371	770	188	1204	192	0	198	20	73
355	301	21	16	16	1277	32	182	297	101	251	145	867	2	382	181	54
356	193	200	11	23	3	66	139	158	43	228	82	8	0	160	69	6
357	176	1378	277	18	441	189	1101	246	197	45	1199	468	270	290	30	22
358	311	529	922	109	1904	720	777	212	431	11	98	1248	5	1852	62	0
359	280	94	905	569	828	117	126	495	146	0	8	102	0	78	24	26
360	121	100	853	359	462	6	50	314	796	379	5	79	40	87	12	0
374	0	10	0	0	0	0	0	1	0	0	0	0	0	0	0	0
375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
376	0	0	0	0	0	0	2	0	2	2	2	0	108	0	0	0
377	0	3	48	16	42	0	155	7	134	40	0	22	7	1	1	0
378	108	92	143	152	790	257	413	52	3	77	54	204	2	154	5	0
379	237	199	101	131	488	620	813	276	394	65	218	75	29	58	240	484
380	254	238	378	232	389	485	417	989	3274	2059	545	1157	135	245	434	317
381	31	100	406	196	130	76	153	790	900	2788	106	412	14	14	97	2
382	0	13	0	43	16	138	15	20	168	1273	5	13	0	0	0	0
721	194	768	40	31	26	5	8	125	65	33	43	116	1040	454	1157	253
722	128	2087	1122	1637	92	221	139	2019	1956	147	1081	1364	951	3763	1858	2804
723	800	824	1716	441	206	192	623	596	415	1068	513	256	1176	1120	1089	1205
724	238	1041	564	723	428	589	876	1544	1485	2788	1436	571	3184	3882	1718	1859
725	824	217	521	1053	280	772	1108	2054	1824	1240	1125	0	325	1187	601	646
726	n.s.	2013	2091	932	263	234	0	1059	881	170	641	446	15351	2696	1464	1823
727	495	749	1007	254	364	193	1774	1965	1851	845	2108	6235	382	6978	2524	3627
728	2827	4462	4861	2333	673	619	3116	445	66	340	1480	1693	2570	8617	3691	1464
752	4834	7103	7458	3056	3454	1732	5214	607	741	798	700	2345	17154	7965	3156	2877
753	4476	4598	8864	6869	3127	338	2296	603	1242	561	965	2594	6224	n.s.	3666	3850
754	3365	3117	3082	8404	7396	3141	3441	577	827	117	3773	4401	20358	11763	3762	4215
755	n.s.	7342	6136	13757	10458	155	722	1015	2161	1585	2812	10332	10626	17864	5811	5437
756	6904	22234	12653	6121	3040	1066	2334	1514	718	660	1680	3904	1904	13026	2354	3419
757	3539	9716	10866	3816	4308	1015	254	464	695	569	3620	3487	5938	4928	1263	4715
758	3896	5203	5219	5610	4169	1698	0	963	1113	1331	2187	4426	6113	7158	1072	2728
759	n.s.	6120	5680	3738	9666	273	2744	562	1146	58	n.s.	6768	17790	8503	2320	2805
760	1608	5066	6927	4706	1451	732	2984	2253	735	1381	2511	4125	6164	8362	4697	4939
761	10584	7868	6477	6171	1385	2847	2267	500	1130	885	2362	2327	7569	9343	6203	5709
762	9728	8103	13428	7711	4770	446	7400	1788	2804	3509	n.s.	5782	11416	14448	8833	3112
763	n.s.	9140	5596	6691	8250	193	458	5423	1320	1846	n.s.	5158	n.s.	n.s.	4680	7169
764	2063	2131	2881	1696	5364	695	2837	3378	407	1346	1867	1941	1734	n.s.	3286	3552
765	4393	2830	3897	4604	4448	5692	3943	2601	2286	1611	2984	3227	6580	3920	1738	2578
766	9053	2998	4508	2413	2365	1372	1283	1218	1344	531	n.s.	1847	1500	3797	2174	3684
767	n.s.	1613	4093	3351	904	134	2522	199	0	126	n.s.	1013	n.s.	n.s.	2847	698
TOTAL	72149	121271	124125	98061	84456	27324	52695	38088	35083	31338	37569	79227	146678	143304	73352	76249
\bar{Y}	7.73	11.73	12.00	9.48	8.17	2.64	5.10	3.68	3.39	3.03	3.98	7.66	14.78	14.80	7.09	7.37
S.D.	0.62	0.89	1.00	0.75	0.84	0.45	0.61	0.40	0.36	0.42	0.44	0.74	1.73	1.40	0.63	0.69

TABLE 5.- Survey estimates (by the swept area method) of Greenland halibut biomass (t) and SD by stratum and year in NAFO Div. 3NO. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels. The last two rows present the biomass corresponding to set of ages 5+ and 10+.

Stratum	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
353	1	32	14	4	1	5	0	34	44	31	1	2	1	1	18	9
354	15	49	19	2	70	18	1	32	66	16	99	17	0	18	2	7
355	26	2	1	1	106	3	16	26	9	20	12	78	0	33	16	5
356	17	18	1	2	0	6	12	14	4	19	7	1	0	14	6	1
357	16	115	23	1	36	16	96	22	17	4	100	40	46	26	3	2
358	28	46	79	10	165	63	69	19	37	1	8	109	0	165	5	0
359	24	8	75	49	72	10	11	44	13	0	1	9	0	7	2	2
360	10	9	70	30	38	1	4	27	68	31	0	7	4	8	1	0
374	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
376	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0
377	0	0	4	1	4	0	14	1	12	3	0	2	1	0	0	0
378	10	8	13	13	67	22	37	5	0	6	5	17	0	14	0	0
379	23	17	9	12	43	54	71	22	33	5	18	7	3	5	22	43
380	24	21	32	20	38	43	36	89	286	180	45	103	12	21	38	28
381	3	9	36	17	11	7	13	70	77	244	9	36	1	1	8	0
382	0	1	0	3	1	12	1	2	15	109	0	1	0	0	0	0
721	17	76	3	3	2	0	1	11	6	3	4	10	91	40	101	22
722	12	195	98	151	8	19	13	186	168	12	96	132	85	335	165	248
723	76	71	150	36	17	17	54	52	36	90	43	23	105	100	100	107
724	21	101	50	62	36	52	78	144	132	240	124	52	274	339	148	165
725	80	25	46	100	24	69	97	183	154	107	100	0	28	102	50	57
726	n.s.	195	186	84	22	22	0	94	78	15	56	40	1342	232	130	165
727	53	64	85	24	32	17	163	169	162	75	176	564	34	581	224	312
728	265	433	418	222	59	54	277	49	6	30	132	153	225	718	323	128
752	444	621	642	296	329	151	456	57	63	71	62	216	1500	664	267	252
753	419	423	775	632	293	30	201	55	110	50	86	234	535	0	326	348
754	306	297	299	862	758	275	316	54	74	10	335	405	1810	1046	334	381
755	n.s.	712	591	1276	1005	14	65	96	192	141	250	958	914	1489	512	487
756	635	1976	1125	605	266	93	211	139	62	58	149	359	169	1158	228	309
757	350	942	935	357	371	90	23	43	62	51	317	315	519	445	107	441
758	365	478	488	534	383	151	0	90	99	118	194	407	543	636	95	247
759	n.s.	573	522	356	874	24	244	53	100	5	n.s.	612	1581	756	213	254
760	153	474	616	448	127	64	274	204	64	123	216	367	539	743	439	439
761	1008	763	617	558	123	253	201	45	102	76	210	218	673	817	525	516
762	949	786	1279	762	424	40	658	154	249	302	n.s.	541	1015	1263	785	277
763	n.s.	840	539	643	750	17	44	499	119	164	n.s.	497	n.s.	0	403	652
764	200	196	256	156	447	59	256	295	35	116	166	175	149	0	292	307
765	426	270	352	455	402	482	351	231	200	136	265	302	585	348	154	225
766	883	314	415	226	233	118	114	108	117	46	n.s.	170	133	337	193	327
767	n.s.	146	383	319	83	12	220	18	0	11	n.s.	95	n.s.	0	245	69
TOTAL	6859	11305	11246	9331	7721	2380	4701	3437	3071	2720	3286	7272	12927	12462	6483	6830
S.D.	546	860	973	707	790	410	575	373	325	379	363	708	1506	1197	593	631
Biomass 5+	4303	6284	6367	8785	6700	2011	3386	2318	2585	2151	3057	6908	11971	12057	6091	6297
Biomass 10+	406	504	660	1111	741	279	495	318	380	182	343	798	1134	1158	1163	1587

TABLE 6.- Length weight relationships in the calculation of Greenland halibut biomass. The equation is Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. To calculate the parameters for the indeterminate individuals, we used the total data (males + females + indeterminate individuals). *E* means Error.

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Males	a	0.0042 E = 0.0663	0.0042 E = 0.0824	0.0044 E = 0.1112	0.0020 E = 0.1562	0.0036 E = 0.2538	0.0031 E = 0.0962	0.0033 E = 0.1081	0.0034 E = 0.0886	0.0036 E = 0.1075	0.0042 E = 0.0826	0.0039 E = 0.1100	0.0036 E = 0.0713	0.0032 E = 0.0963	0.0041 E = 0.0927	0.0054 E = 0.1308	0.0057 E = 0.0846
	b	3.1561 E = 0.0185	3.1622 E = 0.0226	3.1587 E = 0.0308	3.3625 E = 0.0433	3.1925 E = 0.0846	3.2496 E = 0.0285	3.2318 E = 0.0318	3.2123 E = 0.0254	3.2050 E = 0.0306	3.1556 E = 0.0238	3.1847 E = 0.0315	3.2001 E = 0.0205	3.2220 E = 0.0270	3.1663 E = 0.0267	3.0923 E = 0.0378	3.0818 E = 0.0236
		R ² = 0.999 N = 893	R ² = 0.999 N = 417	R ² = 0.995 N = 267	R ² = 0.996 N = 315	R ² = 0.997 N = 15	R ² = 0.987 N = 316	R ² = 0.995 N = 509	R ² = 0.997 N = 498	R ² = 0.995 N = 387	R ² = 0.999 N = 402	R ² = 0.996 N = 411	R ² = 0.999 N = 485	R ² = 0.999 N = 273	R ² = 0.997 N = 379	R ² = 0.993 N = 516	R ² = 0.999 N = 441
Females	a	0.0033 E = 0.0650	0.0038 E = 0.0692	0.0033 E = 0.0897	0.0018 E = 0.1003	0.0034 E = 0.2252	0.0027 E = 0.1315	0.0034 E = 0.0871	0.0026 E = 0.0767	0.0050 E = 0.1357	0.0033 E = 0.1215	0.0041 E = 0.0611	0.0032 E = 0.0777	0.0039 E = 0.1422	0.0043 E = 0.0802	0.0029 E = 0.0688	0.0034 E = 0.1038
	b	3.2308 E = 0.0170	3.2043 E = 0.0179	3.2547 E = 0.0237	3.4066 E = 0.0262	3.2240 E = 0.0656	3.2950 E = 0.0368	3.2302 E = 0.0241	3.2998 E = 0.0212	3.1259 E = 0.0374	3.2306 E = 0.0342	3.1750 E = 0.0170	3.2457 E = 0.0215	3.1931 E = 0.0384	3.1713 E = 0.0221	3.2753 E = 0.0186	3.2350 E = 0.0277
		R ² = 0.999 N = 1473	R ² = 0.999 N = 681	R ² = 0.996 N = 408	R ² = 0.995 N = 642	R ² = 0.995 N = 26	R ² = 0.993 N = 456	R ² = 0.997 N = 726	R ² = 0.998 N = 600	R ² = 0.991 N = 602	R ² = 0.997 N = 539	R ² = 0.998 N = 680	R ² = 0.999 N = 719	R ² = 0.989 N = 382	R ² = 0.997 N = 546	R ² = 0.998 N = 871	R ² = 0.998 N = 865
Indet.	a	0.0032 E = 0.0547	0.0036 E = 0.0706	0.0040 E = 0.1010	0.0019 E = 0.0893	0.0038 E = 0.1320	0.0028 E = 0.0941	0.0027 E = 0.0814	0.0027 E = 0.0781	0.0040 E = 0.0941	0.0036 E = 0.0715	0.0042 E = 0.0622	0.0030 E = 0.0702	0.0037 E = 0.1398	0.0040 E = 0.0705	0.0033 E = 0.0666	0.0037 E = 0.0976
	b	3.2409 E = 0.0145	3.2201 E = 0.0183	3.2009 E = 0.0269	3.3882 E = 0.0234	3.1925 E = 0.0394	3.2837 E = 0.0263	3.2894 E = 0.0226	3.2812 E = 0.0217	3.1787 E = 0.0260	3.2024 E = 0.0201	3.1663 E = 0.0174	3.2546 E = 0.0195	3.2040 E = 0.0379	3.1909 E = 0.0194	3.2445 E = 0.0185	3.2099 E = 0.0267
		R ² = 0.999 N = 2383	R ² = 0.999 N = 1105	R ² = 0.987 N = 679	R ² = 0.998 N = 966	R ² = 0.997 N = 44	R ² = 0.996 N = 776	R ² = 0.997 N = 1243	R ² = 0.997 N = 1105	R ² = 0.996 N = 990	R ² = 0.999 N = 941	R ² = 0.998 N = 1095	R ² = 0.999 N = 1206	R ² = 0.988 N = 662	R ² = 0.998 N = 925	R ² = 0.998 N = 1401	R ² = 0.998 N = 1309

TABLE 7.- Greenland halibut length distribution per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Fem means female and Indet. indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels. (*) indicates untransformed data.

Length (cm.)	1997				1998				1999				2000				2001				2002			
	Males	Fem.	Indet.	Total	Males	Fem.	Indet.	Total	Males	Fem.	Indet.	Total	Males	Fem.	Indet.	Total	Males	Fem.	Indet.	Total	Males	Fem.	Indet.	Total
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.151	0.151	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.014	0.019	0.044
10	0.000	0.043	0.382	0.425	0.000	0.000	0.036	0.036	0.098	0.395	0.000	0.493	0.175	0.169	0.108	0.453	0.404	0.313	0.311	1.028	0.172	0.201	0.050	0.422
12	0.477	1.164	0.811	2.452	0.000	0.028	0.086	0.114	0.305	1.049	0.080	1.434	0.525	0.690	0.159	1.374	1.318	1.937	0.566	3.820	0.725	0.715	0.036	1.476
14	0.157	0.418	0.234	0.809	0.016	0.283	0.092	0.391	0.244	0.928	0.015	1.187	0.297	0.553	0.019	0.868	1.555	2.089	0.159	3.804	0.465	0.523	0.007	0.994
16	0.076	0.081	0.000	0.158	0.038	0.027	0.000	0.065	0.187	0.132	0.000	0.319	0.122	0.162	0.000	0.284	0.280	0.349	0.000	0.629	0.041	0.033	0.000	0.074
18	0.934	1.073	0.004	2.012	0.090	0.105	0.000	0.195	0.141	0.322	0.006	0.469	0.146	0.130	0.000	0.276	0.134	0.115	0.000	0.250	0.019	0.013	0.000	0.032
20	1.836	2.362	0.012	4.210	0.507	0.540	0.025	1.071	0.867	1.170	0.000	2.037	0.035	0.039	0.000	0.074	0.763	0.900	0.000	1.663	0.095	0.085	0.000	0.180
22	1.222	1.395	0.000	2.616	0.699	1.099	0.000	1.798	0.731	1.506	0.000	2.237	0.089	0.083	0.000	0.172	1.431	1.614	0.000	3.045	0.186	0.246	0.000	0.432
24	0.507	0.520	0.000	1.027	0.750	0.930	0.000	1.681	0.318	0.591	0.000	0.909	0.152	0.198	0.000	0.350	0.521	0.798	0.000	1.319	0.228	0.277	0.000	0.505
26	0.769	0.973	0.000	1.742	1.280	1.447	0.000	2.726	0.625	0.531	0.000	1.156	0.085	0.131	0.000	0.216	0.104	0.136	0.000	0.241	0.115	0.148	0.000	0.262
28	1.103	1.091	0.000	2.194	1.893	2.566	0.000	4.459	1.053	0.907	0.000	1.960	0.077	0.104	0.000	0.181	0.033	0.040	0.000	0.073	0.059	0.070	0.000	0.129
30	0.676	1.098	0.000	1.774	1.951	2.433	0.000	4.384	1.594	1.649	0.000	3.243	0.150	0.186	0.000	0.335	0.054	0.088	0.000	0.142	0.095	0.118	0.000	0.213
32	0.491	0.675	0.000	1.165	1.382	1.885	0.000	3.267	2.232	2.431	0.000	4.662	0.234	0.294	0.000	0.527	0.160	0.189	0.000	0.349	0.115	0.232	0.000	0.347
34	0.485	0.723	0.000	1.209	1.543	1.672	0.000	3.214	2.309	2.727	0.000	5.036	0.399	0.464	0.000	0.863	0.169	0.259	0.000	0.428	0.142	0.200	0.000	0.342
36	0.412	0.822	0.000	1.234	1.252	1.820	0.000	3.073	1.687	2.289	0.000	3.976	0.677	0.811	0.000	1.488	0.291	0.348	0.000	0.639	0.134	0.182	0.000	0.316
38	0.358	0.782	0.000	1.140	1.015	1.509	0.000	2.523	0.815	1.570	0.000	2.385	0.755	1.075	0.000	1.831	0.352	0.528	0.000	0.880	0.132	0.192	0.000	0.324
40	0.397	0.689	0.000	1.086	0.546	0.964	0.000	1.509	0.612	1.166	0.000	1.778	0.785	1.562	0.000	2.347	0.539	0.834	0.000	1.373	0.081	0.303	0.000	0.383
42	0.332	0.528	0.000	0.860	0.384	0.683	0.000	1.067	0.346	0.758	0.000	1.103	0.608	1.381	0.000	1.989	0.515	0.829	0.000	1.343	0.129	0.260	0.000	0.389
44	0.249	0.480	0.000	0.729	0.261	0.560	0.000	0.822	0.260	0.483	0.000	0.742	0.400	1.026	0.000	1.426	0.443	1.064	0.000	1.507	0.106	0.218	0.000	0.324
46	0.200	0.394	0.000	0.594	0.199	0.412	0.000	0.611	0.141	0.301	0.000	0.443	0.260	0.624	0.000	0.884	0.384	0.865	0.000	1.249	0.064	0.166	0.000	0.230
48	0.115	0.334	0.000	0.449	0.170	0.301	0.000	0.471	0.095	0.223	0.000	0.318	0.115	0.409	0.000	0.524	0.186	0.650	0.000	0.836	0.038	0.129	0.000	0.167
50	0.098	0.230	0.000	0.327	0.095	0.233	0.000	0.328	0.043	0.149	0.000	0.192	0.092	0.231	0.000	0.323	0.107	0.347	0.000	0.453	0.072	0.138	0.000	0.209
52	0.063	0.154	0.000	0.217	0.082	0.117	0.000	0.199	0.043	0.114	0.000	0.157	0.072	0.175	0.000	0.248	0.051	0.188	0.000	0.239	0.016	0.048	0.000	0.064
54	0.049	0.102	0.000	0.151	0.031	0.089	0.000	0.121	0.025	0.065	0.000	0.090	0.037	0.145	0.000	0.182	0.046	0.129	0.000	0.175	0.023	0.087	0.000	0.110
56	0.032	0.081	0.000	0.114	0.040	0.079	0.000	0.119	0.021	0.060	0.000	0.081	0.034	0.109	0.000	0.144	0.012	0.073	0.000	0.085	0.000	0.038	0.000	0.038
58	0.020	0.057	0.000	0.077	0.015	0.055	0.000	0.070	0.011	0.033	0.000	0.044	0.017	0.060	0.000	0.077	0.019	0.061	0.000	0.080	0.000	0.009	0.000	0.009
60	0.019	0.048	0.000	0.068	0.016	0.035	0.000	0.051	0.008	0.029	0.000	0.038	0.012	0.065	0.000	0.076	0.011	0.027	0.000	0.038	0.000	0.017	0.000	0.017
62	0.004	0.028	0.000	0.032	0.006	0.020	0.000	0.026	0.006	0.027	0.000	0.034	0.005	0.034	0.000	0.039	0.007	0.042	0.000	0.049	0.000	0.000	0.000	0.000
64	0.002	0.033	0.000	0.035	0.007	0.023	0.000	0.030	0.002	0.021	0.000	0.022	0.004	0.035	0.000	0.039	0.003	0.024	0.000	0.027	0.000	0.014	0.000	0.014
66	0.002	0.025	0.000	0.027	0.003	0.013	0.000	0.016	0.002	0.016	0.000	0.018	0.004	0.022	0.000	0.026	0.003	0.028	0.000	0.030	0.000	0.005	0.000	0.005
68	0.000	0.014	0.000	0.014	0.000	0.008	0.000	0.009	0.001	0.013	0.000	0.013	0.001	0.028	0.000	0.029	0.000	0.011	0.000	0.011	0.000	0.009	0.000	0.009
70	0.001	0.011	0.000	0.011	0.000	0.009	0.000	0.009	0.001	0.012	0.000	0.012	0.000	0.020	0.000	0.020	0.000	0.011	0.000	0.011	0.000	0.000	0.000	0.000
72	0.000	0.014	0.000	0.014	0.000	0.007	0.000	0.007	0.000	0.012	0.000	0.012	0.000	0.014	0.000	0.014	0.000	0.012	0.000	0.012	0.000	0.000	0.000	0.000
74	0.000	0.005	0.000	0.005	0.000	0.007	0.000	0.007	0.000	0.008	0.000	0.008	0.000	0.014	0.000	0.014	0.000	0.008	0.000	0.008	0.000	0.000	0.000	0.000
76	0.000	0.005	0.000	0.005	0.000	0.006	0.000	0.006	0.000	0.008	0.000	0.008	0.000	0.006	0.000	0.006	0.000	0.014	0.000	0.014	0.000	0.000	0.000	0.000
78	0.000	0.005	0.000	0.005	0.000	0.007	0.000	0.007	0.000	0.012	0.000	0.012	0.000	0.021	0.000	0.021	0.000	0.034	0.000	0.034	0.000	0.006	0.000	0.006
80	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.005	0.000	0.010	0.000	0.010	0.000	0.004	0.000	0.004	0.000	0.005	0.000	0.005
82	0.000	0.002	0.000	0.002	0.000	0.004	0.000	0.004	0.000	0.003	0.000	0.003	0.000	0.007	0.000	0.007	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000
84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.000	0.000	0.000
86	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.000	0.003	0.000	0.003	0.000	0.006	0.000	0.006	0.000	0.002	0.000	0.002	0.000	0.012	0.000	0.012
88	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.009	0.000	0.009
90	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000
92	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
94	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
96	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000
98	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000															

TABLE 7 (cont.).- Greenland halibut length distribution per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Fem means female and Indet. indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels. (*) indicates untransformed data.

Length (cm.)	2003				2004				2005				2006				2007			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.029	0.013	0.064	0.106	0.000	0.007	0.009	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005
10	0.347	0.437	0.040	0.824	0.139	0.093	0.015	0.248	0.005	0.028	0.000	0.033	0.116	0.030	0.000	0.146	0.050	0.030	0.019	0.099
12	0.707	1.004	0.007	1.718	0.799	0.810	0.039	1.648	0.097	0.078	0.012	0.187	0.505	0.523	0.007	1.035	0.259	0.204	0.011	0.474
14	0.361	0.622	0.000	0.983	1.793	1.820	0.023	3.636	0.322	0.383	0.000	0.705	0.755	0.674	0.000	1.429	0.329	0.418	0.005	0.752
16	0.051	0.049	0.000	0.100	0.928	0.858	0.000	1.785	0.133	0.270	0.000	0.403	0.323	0.259	0.000	0.582	0.218	0.212	0.008	0.438
18	0.021	0.025	0.000	0.046	0.081	0.066	0.000	0.147	0.032	0.035	0.000	0.068	0.053	0.060	0.000	0.113	0.017	0.036	0.000	0.053
20	0.112	0.098	0.000	0.210	0.056	0.087	0.000	0.142	0.151	0.092	0.000	0.243	0.013	0.007	0.000	0.020	0.030	0.004	0.000	0.034
22	0.393	0.513	0.000	0.906	0.193	0.200	0.000	0.394	0.441	0.552	0.000	0.993	0.024	0.019	0.000	0.043	0.071	0.078	0.000	0.149
24	0.305	0.506	0.000	0.810	0.293	0.382	0.000	0.675	0.302	0.518	0.000	0.820	0.073	0.106	0.000	0.179	0.166	0.300	0.000	0.466
26	0.161	0.225	0.000	0.386	0.197	0.327	0.000	0.524	0.152	0.320	0.000	0.472	0.075	0.081	0.000	0.156	0.141	0.243	0.000	0.384
28	0.190	0.132	0.000	0.323	0.154	0.212	0.000	0.366	0.099	0.131	0.000	0.230	0.050	0.144	0.000	0.194	0.044	0.062	0.000	0.106
30	0.342	0.238	0.000	0.581	0.307	0.302	0.000	0.609	0.102	0.193	0.000	0.294	0.102	0.159	0.000	0.260	0.042	0.016	0.000	0.058
32	0.256	0.467	0.000	0.723	0.337	0.519	0.000	0.856	0.199	0.226	0.000	0.425	0.177	0.167	0.000	0.344	0.059	0.049	0.000	0.107
34	0.317	0.422	0.000	0.739	0.282	0.490	0.000	0.772	0.216	0.307	0.000	0.523	0.278	0.203	0.000	0.481	0.161	0.122	0.000	0.282
36	0.173	0.382	0.000	0.555	0.241	0.412	0.000	0.654	0.191	0.320	0.000	0.511	0.193	0.284	0.000	0.478	0.133	0.239	0.000	0.373
38	0.214	0.494	0.000	0.708	0.163	0.402	0.000	0.566	0.215	0.377	0.000	0.592	0.163	0.294	0.000	0.457	0.174	0.286	0.000	0.460
40	0.260	0.469	0.000	0.729	0.126	0.304	0.000	0.430	0.182	0.343	0.000	0.525	0.200	0.332	0.000	0.533	0.221	0.313	0.000	0.534
42	0.182	0.350	0.000	0.532	0.114	0.244	0.000	0.358	0.118	0.225	0.000	0.343	0.160	0.397	0.000	0.557	0.179	0.267	0.000	0.446
44	0.094	0.320	0.000	0.414	0.072	0.194	0.000	0.266	0.047	0.196	0.000	0.243	0.099	0.303	0.000	0.402	0.117	0.406	0.000	0.524
46	0.149	0.266	0.000	0.415	0.132	0.167	0.000	0.300	0.050	0.164	0.000	0.214	0.052	0.120	0.000	0.172	0.145	0.352	0.000	0.498
48	0.149	0.172	0.000	0.321	0.079	0.099	0.000	0.178	0.067	0.117	0.000	0.184	0.082	0.147	0.000	0.229	0.102	0.342	0.000	0.445
50	0.095	0.227	0.000	0.322	0.098	0.128	0.000	0.226	0.038	0.095	0.000	0.133	0.050	0.149	0.000	0.199	0.107	0.292	0.000	0.399
52	0.090	0.187	0.000	0.277	0.045	0.085	0.000	0.130	0.053	0.081	0.000	0.134	0.031	0.102	0.000	0.133	0.069	0.141	0.000	0.209
54	0.037	0.089	0.000	0.127	0.047	0.075	0.000	0.121	0.073	0.067	0.000	0.141	0.028	0.054	0.000	0.082	0.014	0.115	0.000	0.129
56	0.032	0.116	0.000	0.148	0.012	0.037	0.000	0.049	0.047	0.026	0.000	0.072	0.033	0.050	0.000	0.083	0.017	0.087	0.000	0.104
58	0.007	0.087	0.000	0.094	0.019	0.048	0.000	0.067	0.020	0.088	0.000	0.109	0.018	0.037	0.000	0.055	0.012	0.057	0.000	0.069
60	0.000	0.035	0.000	0.035	0.014	0.018	0.000	0.032	0.013	0.024	0.000	0.037	0.023	0.019	0.000	0.042	0.018	0.025	0.000	0.043
62	0.000	0.038	0.000	0.038	0.009	0.018	0.000	0.027	0.000	0.020	0.000	0.020	0.006	0.010	0.000	0.016	0.000	0.017	0.000	0.017
64	0.000	0.027	0.000	0.027	0.008	0.005	0.000	0.012	0.009	0.018	0.000	0.027	0.000	0.019	0.000	0.019	0.000	0.027	0.000	0.027
66	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.007	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.022
68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.011	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.016	0.000	0.016
70	0.000	0.022	0.000	0.022	0.000	0.005	0.000	0.005	0.000	0.015	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.006
72	0.000	0.023	0.000	0.023	0.000	0.005	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.005	0.000	0.008	0.000	0.008
74	0.000	0.017	0.000	0.017	0.000	0.016	0.000	0.016	0.000	0.018	0.000	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.008	0.000	0.008	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.007	0.000	0.000	0.000	0.000
78	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.006	0.000	0.008	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
82	0.000	0.012	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.010
86	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.005	0.000	0.000	0.000	0.000
88	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
94	0.000	0.010	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
96	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
98	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	5.077	8.101	0.111	13.288	6.738	8.459	0.087	15.284	3.381	5.359	0.012	8.752	3.683	4.765	0.007	8.455	2.895	4.803	0.048	7.746
Nº samples (*):				79				79				78				71				68
Nº Ind. (*):	878	1317	17	2212	1235	1511	13	2759	579	925	2	1506	611	773	1	1385	473	805	7	1285
Sampled catch:				742				624				507				460				623
Range (*):				8-95				9-96				11-81				10-87				9-84
Total catch:				749				624				551				467				623
Total hauls (*):				118				120				119				120				110

TABLE 7 (cont.).- Greenland halibut length distribution per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Fem means female and Indet. indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels. (*) indicates untransformed data.

Length (cm.)	2008				2009				2010				2011				2012			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.091	0.089	0.018	0.198	0.037	0.053	0.089	0.179	0.029	0.053	0.000	0.082	0.018	0.010	0.034	0.061	0.000	0.000	0.000	0.000
12	0.118	0.191	0.021	0.329	0.174	0.102	0.039	0.315	0.078	0.091	0.005	0.175	0.220	0.195	0.042	0.458	0.000	0.030	0.010	0.040
14	0.029	0.049	0.004	0.083	0.149	0.087	0.000	0.237	0.047	0.062	0.005	0.114	0.455	0.773	0.031	1.259	0.018	0.019	0.000	0.036
16	0.021	0.018	0.000	0.039	0.000	0.014	0.000	0.014	0.011	0.035	0.000	0.046	0.121	0.275	0.000	0.396	0.004	0.003	0.000	0.007
18	0.030	0.046	0.000	0.075	0.335	0.314	0.000	0.649	0.094	0.089	0.000	0.183	0.013	0.064	0.000	0.077	0.017	0.026	0.000	0.043
20	0.162	0.169	0.000	0.331	0.656	1.228	0.000	1.885	0.515	0.469	0.000	0.984	0.101	0.112	0.000	0.213	0.058	0.075	0.000	0.133
22	0.239	0.253	0.000	0.492	0.663	0.589	0.000	1.251	0.329	0.496	0.000	0.825	0.261	0.261	0.000	0.522	0.139	0.241	0.000	0.380
24	0.163	0.340	0.000	0.503	0.274	0.331	0.000	0.605	0.256	0.427	0.000	0.683	0.191	0.255	0.000	0.446	0.348	0.526	0.000	0.874
26	0.081	0.218	0.000	0.299	0.293	0.296	0.000	0.589	0.090	0.215	0.000	0.306	0.117	0.146	0.000	0.263	0.358	0.625	0.000	0.983
28	0.097	0.102	0.000	0.199	0.628	0.437	0.000	1.066	0.083	0.075	0.000	0.157	0.052	0.086	0.000	0.138	0.222	0.284	0.000	0.506
30	0.087	0.057	0.000	0.143	0.343	0.511	0.000	0.854	0.137	0.211	0.000	0.348	0.100	0.174	0.000	0.275	0.084	0.083	0.000	0.167
32	0.127	0.207	0.000	0.334	0.457	0.492	0.000	0.948	0.228	0.236	0.000	0.464	0.166	0.147	0.000	0.313	0.126	0.106	0.000	0.232
34	0.092	0.241	0.000	0.333	0.507	0.294	0.000	0.801	0.256	0.287	0.000	0.543	0.109	0.150	0.000	0.259	0.112	0.163	0.000	0.275
36	0.178	0.205	0.000	0.383	0.293	0.241	0.000	0.534	0.405	0.456	0.000	0.861	0.104	0.106	0.000	0.210	0.195	0.146	0.000	0.341
38	0.153	0.132	0.000	0.285	0.358	0.274	0.000	0.632	0.526	0.749	0.000	1.276	0.156	0.214	0.000	0.370	0.152	0.326	0.000	0.478
40	0.286	0.274	0.000	0.560	0.528	0.722	0.000	1.250	0.551	1.271	0.000	1.822	0.176	0.271	0.000	0.447	0.232	0.393	0.000	0.625
42	0.295	0.519	0.000	0.814	0.571	0.906	0.000	1.477	0.595	1.427	0.000	2.022	0.226	0.375	0.000	0.601	0.253	0.417	0.000	0.670
44	0.284	0.594	0.000	0.878	0.629	1.109	0.000	1.738	0.439	1.505	0.000	1.944	0.172	0.402	0.000	0.574	0.240	0.450	0.000	0.690
46	0.306	0.719	0.000	1.025	0.487	1.484	0.000	1.971	0.497	1.133	0.000	1.630	0.291	0.338	0.000	0.629	0.239	0.368	0.000	0.607
48	0.299	0.704	0.000	1.003	0.494	1.409	0.000	1.902	0.643	1.057	0.000	1.700	0.257	0.457	0.000	0.714	0.228	0.388	0.000	0.616
50	0.214	0.509	0.000	0.722	0.496	1.308	0.000	1.804	0.472	1.040	0.000	1.512	0.196	0.468	0.000	0.664	0.144	0.326	0.000	0.470
52	0.151	0.460	0.000	0.612	0.268	1.023	0.000	1.291	0.149	0.828	0.000	0.978	0.134	0.399	0.000	0.534	0.121	0.298	0.000	0.419
54	0.054	0.304	0.000	0.358	0.149	0.466	0.000	0.614	0.122	0.587	0.000	0.709	0.100	0.324	0.000	0.424	0.067	0.304	0.000	0.371
56	0.086	0.234	0.000	0.320	0.078	0.376	0.000	0.455	0.076	0.402	0.000	0.478	0.055	0.227	0.000	0.282	0.063	0.241	0.000	0.304
58	0.044	0.191	0.000	0.235	0.076	0.202	0.000	0.278	0.021	0.334	0.000	0.356	0.046	0.181	0.000	0.228	0.018	0.219	0.000	0.237
60	0.000	0.091	0.000	0.091	0.029	0.120	0.000	0.149	0.006	0.169	0.000	0.176	0.006	0.165	0.000	0.171	0.015	0.187	0.000	0.202
62	0.009	0.061	0.000	0.070	0.000	0.052	0.000	0.052	0.000	0.088	0.000	0.088	0.000	0.099	0.000	0.099	0.000	0.116	0.000	0.116
64	0.000	0.029	0.000	0.029	0.009	0.052	0.000	0.061	0.000	0.083	0.000	0.083	0.000	0.051	0.000	0.051	0.000	0.064	0.000	0.064
66	0.000	0.005	0.000	0.005	0.000	0.042	0.000	0.042	0.000	0.034	0.000	0.034	0.006	0.017	0.000	0.023	0.000	0.025	0.000	0.025
68	0.000	0.018	0.000	0.018	0.000	0.012	0.000	0.012	0.000	0.016	0.000	0.016	0.000	0.012	0.000	0.012	0.000	0.033	0.000	0.033
70	0.000	0.018	0.000	0.018	0.000	0.007	0.000	0.007	0.000	0.026	0.000	0.026	0.000	0.005	0.000	0.005	0.000	0.025	0.000	0.025
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.006	0.000	0.010	0.000	0.010	0.000	0.041	0.000	0.041
74	0.000	0.000	0.000	0.000	0.000	0.079	0.000	0.079	0.000	0.006	0.000	0.006	0.000	0.005	0.000	0.005	0.000	0.025	0.000	0.025
76	0.000	0.007	0.000	0.007	0.000	0.011	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.026	0.000	0.026	0.000	0.021	0.000	0.021
78	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.021	0.000	0.005	0.000	0.005
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.008	0.000	0.000	0.000	0.000
82	0.000	0.000	0.000	0.000	0.000	0.024	0.000	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
84	0.000	0.017	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.016	0.000	0.016
86	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.009	0.000	0.000	0.000	0.000
88	0.000	0.005	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.008	0.000	0.005	0.000	0.005
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
94	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
96	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
98	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	3.698	7.075	0.051	10.825	8.980	14.667	0.128	23.775	6.657	13.979	0.010	20.646	3.849	6.847	0.107	10.802	3.453	6.618	0.010	10.081
N° samples (*):				83				57				63				77				67
N° Ind. (*):	656	1219	10	1885	702	1296	11	2009	994	2045	2	3041	701	1211	15	1927	549	1073	2	1624
Sampled catch:				1215				1424				2062				1082				1149
Range (*):				9-88				10-83				10-94				10-89				12-89
Total catch:				1215				1918				2095				1112				1197
Total hauls (*):				122				109				95				122				122

TABLE 8-Greenland halibut age numbers per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

	1997				1998				1999				2000				2001				2002			
Age	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0											0.15	0.15												
1	3.74	4.74	1.44	9.92	0.57	0.92	0.22	1.71	1.14	3.15	0.10	4.38	1.15	1.49	0.29	2.92	3.40	4.44	1.03	8.87	1.40	1.40	0.11	2.91
2	2.70	2.82	0.00	5.52	2.61	2.62	0.01	5.24	1.86	2.94	0.00	4.80	0.22	0.27	0.49	2.59	3.30	0.01	5.90	0.33	0.32	0.00	0.64	
3	1.67	1.82		3.49	4.24	4.84		9.08	4.09	3.12		7.21	0.34	0.47	0.80	0.51	0.67		1.18	0.38	0.65		1.02	
4	0.81	2.99		3.81	3.35	5.12		8.47	4.35	4.96		9.31	0.59	0.80	1.39	0.41	0.66		1.07	0.24	0.46		0.69	
5	0.98	1.26		2.24	1.92	3.14		5.06	2.06	4.23		6.29	1.50	2.34	3.84	1.20	1.64		2.84	0.47	0.67		1.14	
6	0.77	1.20		1.97	0.97	1.80		2.77	0.81	2.12		2.92	1.48	2.95	4.42	1.23	2.73		3.96	0.32	0.60		0.92	
7	0.21	1.01		1.22	0.34	0.76		1.10	0.32	0.45		0.77	0.89	1.67	2.56	0.50	1.06		1.56	0.11	0.33		0.44	
8	0.19	0.41		0.60	0.20	0.46		0.66	0.13	0.36		0.49	0.12	0.59	0.71	0.02	0.20		0.22	0.01	0.21		0.23	
9	0.01	0.06		0.07	0.04	0.17		0.21	0.04	0.19		0.23	0.06	0.23	0.28	0.01	0.05		0.06		0.02		0.02	
10	0.00	0.05		0.05	0.03	0.06		0.08	0.03	0.06		0.09	0.02	0.06	0.08	0.01	0.04		0.05		0.01		0.01	
11	0.00	0.05		0.05	0.01	0.03		0.03	0.01	0.02		0.03	0.01	0.05	0.06	0.01	0.03		0.04		0.02		0.02	
12	0.00	0.01		0.02	0.00	0.03		0.03	0.00	0.04		0.05	0.00	0.03	0.04	0.00	0.05		0.05		0.02		0.02	
13		0.01		0.01		0.02		0.02		0.03		0.03	0.00	0.04	0.05	0.00	0.04		0.05		0.01		0.01	
14		0.02		0.02		0.01		0.01		0.03		0.03	0.00	0.05	0.06	0.00	0.04		0.04		0.01		0.01	
15		0.01		0.01		0.01		0.01		0.02		0.02		0.03	0.03		0.02		0.02		0.02		0.02	
16		0.00		0.00		0.00		0.00		0.01		0.01		0.02	0.02		0.00		0.00					
17		0.00		0.00		0.00		0.00		0.00		0.00		0.01	0.01		0.00		0.00					
18		0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.00									
19										0.00				0.00	0.00		0.00		0.00					
20		0.00		0.00						0.00														
Total	11.09	16.47	1.44	29.00	14.27	19.99	0.24	34.50	14.82	21.73	0.25	36.80	6.36	11.10	0.29	17.75	9.89	14.98	1.04	25.91	3.26	4.72	0.11	8.09

Age	2003				2004				2005				2006				2007			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0																				
1	1.39	2.07	0.11	3.56	0.45	0.71	0.05	1.22	0.42	0.64	0.01	1.07	1.24	1.06	0.01	2.31	0.87	0.89	0.05	1.81
2	1.05	1.35	0.00	2.40	3.55	3.37	0.04	6.96	0.56	0.40	0.00	0.97	0.58	0.53		1.12	0.26	0.39		0.64
3	0.82	0.86		1.68	0.74	1.34		2.09	0.63	1.18		1.81	0.14	0.27		0.41	0.19	0.32		0.51
4	0.86	1.05		1.91	1.01	1.04		2.06	0.44	0.60		1.04	0.68	0.87		1.55	0.18	0.14		0.32
5	0.35	1.22		1.58	0.33	0.91		1.24	0.49	0.83		1.32	0.37	1.01		1.38	0.50	0.99		1.48
6	0.29	0.61		0.90	0.39	0.46		0.85	0.40	1.04		1.44	0.37	0.45		0.81	0.50	0.90		1.40
7	0.28	0.50		0.78	0.15	0.37		0.51	0.30	0.39		0.68	0.20	0.32		0.52	0.28	0.74		1.02
8	0.04	0.23		0.26	0.09	0.12		0.21	0.08	0.11		0.19	0.06	0.16		0.22	0.08	0.20		0.29
9	0.00	0.06		0.06	0.01	0.04		0.05	0.02	0.06		0.08	0.02	0.03		0.05		0.10		0.10
10		0.04		0.04	0.02	0.01		0.03	0.02	0.04		0.06	0.02	0.01		0.03	0.02	0.07		0.09
11		0.01		0.01	0.01	0.00		0.01	0.00	0.02		0.03		0.02		0.02		0.03		0.03
12		0.07		0.07		0.03		0.03	0.01	0.01		0.02		0.02		0.02		0.03		0.03
13		0.01		0.01		0.02		0.02		0.03		0.03		0.00		0.00				
14		0.01		0.01		0.01		0.01		0.02		0.02		0.01		0.01		0.01		0.01
15						0.01		0.01		0.00		0.00								
16										0.00		0.00		0.00		0.00		0.01		0.01
17		0.01		0.01																
18										0.00		0.00								
19																				
20																				
Total	5.08	8.10	0.11	13.29	6.74	8.46	0.09	15.28	3.38	5.36	0.01	8.75	3.68	4.76	0.01	8.45	2.90	4.80	0.05	7.75

TABLE 8 (Cont.).-Greenland halibut age numbers per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	2008				2009				2010				2011				2012			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0																				
1	0.23	0.34	0.05	0.62	0.36	0.21	0.13	0.70	0.16	0.20	0.01	0.37	0.81	1.28	0.11	2.20	0.02	0.05	0.01	0.08
2	0.52	0.47		0.99	1.53	1.69		3.22	1.02	1.18		2.21	0.60	0.70		1.30	0.65	1.15		1.80
3	0.28	0.62		0.90	0.97	1.25		2.21	0.32	0.62		0.94	0.19	0.29		0.48	0.63	0.71		1.34
4	0.25	0.44		0.69	1.17	1.45		2.61	0.35	0.38		0.73	0.27	0.34		0.62	0.17	0.27		0.44
5	0.41	0.52		0.93	1.62	1.11		2.73	1.62	1.80		3.42	0.38	0.56		0.95	0.47	0.62		1.09
6	0.86	1.84		2.70	1.73	3.21		4.94	1.29	4.29		5.58	0.94	1.07		2.01	0.55	1.16		1.71
7	0.90	1.61		2.50	1.32	4.35		5.67	1.59	3.56		5.16	0.53	1.60		2.12	0.77	1.23		2.00
8	0.14	0.60		0.74	0.12	0.73		0.85	0.24	0.99		1.23	0.08	0.35		0.43	0.13	0.41		0.54
9	0.09	0.31		0.40	0.06	0.30		0.35	0.03	0.36		0.39	0.03	0.20		0.22	0.03	0.37		0.40
10	0.01	0.15		0.15	0.08	0.11		0.19	0.03	0.23		0.26	0.00	0.23		0.24	0.03	0.31		0.34
11	0.01	0.09		0.10	0.04	0.10		0.14		0.24		0.24	0.00	0.05		0.05		0.11		0.11
12		0.03		0.03		0.03		0.03		0.04		0.04	0.01	0.05		0.06		0.05		0.05
13		0.02		0.02		0.02		0.02		0.02		0.02		0.02		0.02		0.06		0.06
14		0.01		0.01		0.01		0.01		0.03		0.03		0.06		0.06		0.05		0.05
15		0.02		0.02		0.08		0.08		0.02		0.02		0.01		0.01		0.01		0.01
16		0.01		0.01		0.02		0.02						0.02		0.02		0.03		0.03
17														0.01		0.01		0.02		0.02
18										0.01		0.01						0.01		0.01
19																				
20																				
Total	3.70	7.07	0.05	10.82	8.98	14.67	0.13	23.78	6.66	13.98	0.01	20.65	3.85	6.85	0.11	10.80	3.45	6.62	0.01	10.08

TABLE 9.-Greenland halibut mean length (cm) per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	1997				1998				1999				2000				2001				2002			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0																								
1	19.81	18.18	12.74	18.01	21.13	19.32	14.09	19.24	16.18	15.28	12.90	15.46	13.81	13.69	12.61	13.63	13.85	13.94	12.78	13.77	13.51	13.40	11.53	13.39
2	25.07	23.39	20.19	24.21	25.80	24.54	21.50	25.16	23.11	22.79	18.50	22.91	21.01	19.39		20.12	22.07	22.05	14.84	22.05	22.93	20.64	14.50	21.80
3	30.53	29.26		29.87	30.57	29.55		30.03	31.66	30.02		30.95	26.56	27.06		26.85	24.68	26.41		25.66	25.34	25.56		25.48
4	35.84	33.84		34.27	34.21	33.49		33.78	34.05	34.09		34.07	33.79	32.46		33.02	33.45	35.67		34.83	33.61	33.31		33.41
5	39.56	39.25		39.38	37.70	38.41		38.14	37.18	38.20		37.87	38.28	38.60		38.47	39.96	41.07		40.60	37.57	39.21		38.53
6	43.76	44.13		43.99	42.32	42.05		42.14	42.30	40.91		41.30	41.55	42.53		42.21	44.62	45.07		44.93	44.31	43.42		43.73
7	50.97	47.85		48.38	48.42	47.13		47.53	46.47	46.35		46.40	44.89	45.91		45.56	48.26	49.83		49.33	50.04	48.67		49.03
8	50.30	52.28		51.66	50.85	50.89		50.88	51.48	50.42		50.69	53.78	50.51		51.05	56.67	55.58		55.66	55.13	53.43		53.53
9	59.75	59.71		59.72	55.22	53.98		54.22	54.20	53.41		53.54	54.71	55.22		55.12	59.08	59.18		59.16		57.13		57.13
10	62.50	65.54		65.39	55.28	60.01		58.54	52.29	58.76		56.86	59.85	60.83		60.63	60.33	62.15		61.71		61.02		61.02
11	65.19	64.52		64.53	62.73	63.40		63.25	62.78	63.55		63.35	62.57	62.58		62.58	62.31	64.62		64.21		63.39		63.39
12	66.19	71.70		70.74	64.83	68.11		67.86	65.90	66.89		66.83	62.94	65.05		64.77	63.71	67.60		67.33		71.71		71.71
13		75.84		75.84		73.38		73.38		72.91		72.91	63.53	68.44		68.21	66.28	73.91		73.25		78.50		78.50
14		77.14		77.14		74.81		74.81		74.49		74.49	67.06	72.48		72.06	78.50	76.47		76.49		87.50		87.50
15		75.41		75.41		77.99		77.99		76.64		76.64		78.52		78.52		80.53		80.53		88.68		88.68
16		86.66		86.66		81.44		81.44		83.60		83.60		78.94		78.94		86.14		86.14				
17		91.50		91.50		87.76		87.76		90.06		90.06		83.62		83.62		89.08		89.08				
18		83.35		83.35		90.48		90.48		94.50		94.50		85.17		85.17								
19														91.03		91.03		97.50		97.50				
20		92.50		92.05																				
Total	28.46	29.93	12.76	28.52	32.78	33.62	14.54	33.14	32.05	31.74	9.76	31.72	34.47	37.83	12.61	36.22	26.34	29.99	12.80	27.91	25.23	30.33	11.55	28.02

TABLE 9 (Cont.).—Greenland halibut mean length (cm) per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	2003				2004				2005				2006				2007			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0																				
1	12.96	13.17	10.15	12.99	12.14	12.94	11.54	12.58	14.77	15.08	12.50	14.93	13.77	14.07	13.50	13.91	14.75	14.96	12.92	14.80
2	23.06	23.83	12.50	23.49	16.47	16.75	14.07	16.59	20.68	21.61	12.50	21.06	17.68	17.03		17.37	24.42	25.10		24.83
3	31.31	31.43		31.37	25.29	29.09		27.74	24.98	24.59		24.73	26.28	27.23		26.91	26.81	26.69		26.74
4	36.64	36.62		36.63	33.61	34.70		34.17	31.66	30.75		31.13	34.31	35.11		34.76	33.54	34.10		33.79
5	42.37	41.22		41.48	39.85	39.40		39.52	36.91	37.57		37.32	39.43	41.20		40.72	38.38	39.95		39.42
6	47.12	46.49		46.70	45.12	44.79		44.94	41.07	41.85		41.63	43.24	44.80		44.10	43.78	45.29		44.75
7	51.58	52.40		52.11	52.07	50.62		51.04	48.58	48.96		48.80	49.53	50.18		49.93	49.28	49.84		49.68
8	56.19	56.47		56.43	54.02	55.95		55.16	55.20	56.59		55.98	54.46	54.90		54.78	54.65	54.19		54.32
9	58.50	60.69		60.57	59.66	58.82		59.04	57.66	58.45		58.25	59.57	58.01		58.62		57.46		57.46
10		63.25		63.25	61.61	61.10		61.41	62.45	60.69		61.24	61.82	61.50		61.73	61.05	61.36		61.28
11		64.50		64.50	64.50	64.50		64.50	61.50	64.47		64.10		62.10		62.10		65.60		65.60
12		72.19		72.19		63.61		63.61	68.48	69.92		69.45		64.50		64.50		68.74		68.74
13		77.50		77.50		73.79		73.79		71.44		71.44		72.50		72.50				
14		82.50		82.50		75.50		75.50		77.40		77.40		77.50		77.50		72.50		72.50
15						88.20		88.20		76.68		76.68								
16										76.04		76.04		87.50		87.50		84.50		84.50
17		95.50		95.50																
18										79.50		79.50								
19																				
20																				
Total	28.49	31.73	10.16	30.31	24.00	27.33	12.63	25.78	30.85	33.07	12.50	32.18	27.30	32.39	13.50	30.16	31.59	37.34	12.92	35.04

Age	2008				2009				2010				2011				2012			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0																				
1	12.33	12.77	12.05	12.54	13.49	12.98	11.82	13.03	13.26	12.91	14.00	13.09	14.65	15.16	13.17	14.88	15.14	14.30	13.50	14.41
2	22.25	22.06		22.16	21.47	21.23		21.34	22.06	22.56		22.33	23.46	23.44		23.45	24.91	25.23		25.12
3	26.80	25.73		26.06	26.24	24.56		25.29	25.18	25.03		25.08	29.13	29.26		29.21	28.30	27.61		27.94
4	32.52	33.04		32.85	31.73	32.01		31.89	31.97	31.97		31.97	32.87	33.09		32.99	33.83	34.15		34.02
5	38.30	38.15		38.22	38.53	38.96		38.70	38.49	38.55		38.52	38.60	39.62		39.21	38.41	39.21		38.87
6	43.30	44.90		44.39	44.86	44.70		44.76	44.03	43.93		43.96	45.54	44.62		45.05	43.29	43.64		43.52
7	48.92	49.72		49.43	49.80	50.20		50.10	48.89	49.20		49.10	51.33	51.33		51.33	49.03	49.50		49.32
8	54.54	54.08		54.17	53.30	55.15		54.90	54.07	54.76		54.62	56.53	54.66		55.02	54.63	55.18		55.05
9	56.81	56.19		56.34	57.12	58.17		58.00	56.15	56.84		56.79	56.78	58.14		57.97	57.28	57.15		57.16
10	57.50	59.84		59.72	58.50	61.05		60.03	58.30	59.79		59.63	61.50	61.16		61.17	58.40	60.38		60.21
11	63.50	62.90		62.96	62.43	63.66		63.32		62.40		62.40	61.50	63.34		63.29		63.57		63.57
12		63.25		63.25		67.16		67.16		65.39		65.39	67.50	65.30		65.54		66.62		66.62
13		69.00		69.00		66.86		66.86		67.40		67.40		63.40		63.40		68.66		68.66
14		71.50		71.50		72.77		72.77		72.72		72.72		75.62		75.62		72.80		72.80
15		80.94		80.94		75.57		75.57		76.19		76.19		77.38		77.38		72.50		72.50
16		85.92		85.92		83.50		83.50						85.57		85.57		75.50		75.50
17														86.50		86.50		84.50		84.50
18										94.50		94.50						89.50		89.50
19																				
20																				
Total	38.07	42.21	12.05	40.65	35.89	41.16	11.82	39.01	38.67	43.07	14.00	41.64	34.36	39.15	13.17	37.18	37.75	42.30	13.50	40.71

TABLE 10.-Greenland halibut mean weight (gr) per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	1997				1998				1999				2000				2001				2002			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0											2.53	2.53												
1	56.55	44.11	12.86	44.25	66.73	56.01	19.75	54.81	33.43	28.91	14.71	29.77	14.69	13.93	10.45	13.89	16.47	17.18	13.45	16.48	15.16	14.44	9.15	14.58
2	116.19	90.71	54.44	103.16	126.63	111.44	70.48	118.89	93.56	89.74	45.51	91.18	59.74	47.35		52.97	72.15	75.92	20.95	74.19	85.12	64.56	18.23	74.96
3	210.65	184.05		196.79	216.07	199.69		207.33	248.40	218.64		235.53	128.63	150.58		141.39	102.12	138.28		122.55	115.32	119.77		118.13
4	343.22	296.07		306.12	307.90	300.76		303.58	313.10	327.53		320.789	282.32	262.15		270.66	271.96	351.48		321.30	292.89	280.11		284.52
5	477.91	474.14		475.79	416.64	461.62		444.53	409.22	473.15		452.20	427.90	463.68		449.67	474.57	549.96		518.19	420.87	483.24		457.46
6	655.66	691.54		677.57	598.59	618.72		611.69	609.82	591.51		596.56	569.60	645.43		620.11	676.20	739.46		719.83	705.62	677.06		686.90
7	1039.74	904.80		927.81	910.39	891.49		897.31	822.33	886.29		859.87	730.54	839.28		801.57	869.70	1020.42		971.90	1043.65	978.53		995.47
8	1026.08	1215.64		1156.61	1069.28	1143.26		1120.75	1140.19	1164.85		1158.54	1328.46	1174.58		1199.73	1427.84	1443.38		1442.29	1413.34	1331.03		1336.18
9	1712.22	1824.90		1803.51	1386.01	1376.62		1378.47	1348.28	1405.65		1395.92	1413.25	1563.75		1533.36	1628.57	1759.76		1735.49		1645.43		1645.43
10	1955.36	2451.90		2427.15	1432.74	1924.36		1771.37	1232.46	1904.19		1707.55	1905.57	2159.81		2106.74	1741.34	2059.38		1981.96		2045.34		2045.34
11	2237.75	2337.64		2335.75	2039.82	2276.20		2223.67	2111.90	2448.25		2362.51	2208.37	2378.52		2363.60	1929.96	2341.88		2269.44		2325.25		2325.25
12	2352.23	3300.22		3135.63	2253.06	2917.28		2867.21	2463.10	2940.32		2912.86	2245.01	2715.93		2653.68	2073.82	2719.39		2673.75		3573.05		3573.05
13		3942.66		3942.66		3684.55		3684.55		3877.33		3877.33	2312.31	3242.15		3199.58	2352.00	3656.76		3543.88		4688.33		4688.33
14		4190.79		4190.79		3909.22		3909.22		4188.33		4188.33	2772.46	3964.91		3872.13	4033.42	4068.04		4067.64		6704.09		6704.09
15		3887.49		3887.49		4480.36		4480.36		4594.01		4594.01		5205.90		5205.90		4770.13		4770.13		7010.77		7010.77
16		6092.92		6092.92		5136.80		5136.80		6339.81		6339.81		5334.32		5334.32		5906.19		5906.19				
17		7169.24		7169.24		6438.79		6438.79		7771.36		7771.36		6423.59		6423.59		6596.90		6596.90				
18		5376.62		5376.62		7159.28		7159.28		8870.58		8870.58		6830.30		6830.30								
19														8552.11		8552.11		8790.83		8790.83				
20		7425.48		7425.48																				
Total	232.20	308.61	12.96	264.67	303.57	365.55	22.83	337.54	299.38	352.89	7.97	328.98	420.62	613.57	10.45	534.70	235.78	384.60	13.51	312.93	222.00	406.07	9.20	326.40

Age	2003				2004				2005				2006				2007			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0																				
1	13.64	14.67	5.75	13.99	10.36	12.15	8.85	11.35	20.40	24.66	12.40	22.85	16.77	17.32	15.20	17.02	21.41	22.91	15.24	21.99
2	91.26	98.95	11.06	95.57	32.38	33.31	16.10	32.74	61.94	81.27	12.40	69.97	39.71	35.77		37.83	104.32	115.53		111.03
3	233.58	239.55		236.64	127.49	187.69		166.28	109.33	113.89		112.30	128.14	147.05		140.62	138.93	140.89		140.14
4	384.32	389.32		387.08	276.74	315.37		296.34	235.20	229.40		231.85	296.98	335.57		318.55	283.54	303.54		292.31
5	603.57	567.97		575.95	474.56	478.78		477.67	384.54	423.10		408.67	463.22	558.91		533.21	437.41	507.44		484.01
6	848.07	832.07		837.28	707.95	723.66		716.51	540.86	602.50		585.18	614.40	718.56		671.84	666.30	752.32		721.42
7	1139.15	1223.51		1193.47	1111.11	1087.07		1094.00	940.73	972.27		958.57	955.05	1039.83		1007.25	962.80	1017.87		1002.51
8	1491.39	1556.30		1546.84	1261.22	1510.72		1408.99	1371.22	1504.91		1446.10	1261.22	1386.76		1351.91	1337.24	1325.29		1328.75
9	1696.71	1957.74		1942.74	1714.45	1774.27		1759.06	1567.35	1668.79		1643.60	1666.78	1648.82		1655.80		1590.23		1590.23
10		2235.61		2235.61	1901.04	2010.19		1944.89	2030.67	1869.10		1919.39	1871.62	1984.49		1901.68	1894.70	1958.27		1941.94
11		2380.78		2380.78	2200.49	2398.03		2258.79	1926.64	2255.28		2214.16		2048.31		2048.31		2416.31		2416.31
12		3442.28		3442.28		2297.05		2297.05	2733.13	2920.33		2858.54		2314.58		2314.58		2801.55		2801.55
13		4308.25		4308.25		3746.17		3746.17		3122.04		3122.04		3376.88		3376.88				
14		5272.40		5272.40		4034.69		4034.69		4024.01		4024.01		4188.75		4188.75		3315.34		3315.34
15						6945.38		6945.38		3923.74		3923.74								
16										3829.26		3829.26		6199.50		6199.50		5391.71		5391.71
17		8458.35		8458.35																
18										4337.35		4337.35								
19																				
20																				
Total	290.81	443.31	5.78	381.40	187.38	285.66	11.97	240.78	328.36	425.37	12.40	387.33	270.93	426.46	15.20	358.38	381.58	598.44	15.24	513.79

TABLE 10 (Cont.).-Greenland halibut mean weight (gr) per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	2008				2009				2010				2011				2012			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
0																				
1	11.68	13.02	10.61	12.32	14.41	13.49	9.59	13.25	15.43	14.90	18.07	15.21	22.46	22.03	14.78	21.84	24.85	19.53	15.79	20.36
2	77.06	74.84		76.00	64.28	65.95		65.16	76.25	87.16		82.10	95.27	91.15		93.04	116.63	119.17		118.25
3	139.51	122.38		127.67	122.58	108.77		114.79	116.02	121.57		119.68	187.43	188.60		188.13	172.60	159.05		165.43
4	255.60	274.67		267.76	224.73	249.65		238.52	241.83	256.94		249.63	268.08	280.46		274.97	293.36	310.98		304.13
5	433.41	439.94		437.05	429.07	476.92		448.51	439.61	469.98		455.60	441.14	504.31		478.78	434.34	487.49		464.67
6	639.14	743.15		709.89	688.92	731.20		716.36	670.10	711.16		701.67	738.52	744.42		741.65	626.26	688.73		668.77
7	941.57	1034.12		1000.93	961.06	1063.47		1039.59	935.43	1020.04		993.89	1062.71	1178.60		1149.87	924.76	1035.64		992.95
8	1328.94	1352.57		1348.21	1191.16	1440.76		1406.66	1277.41	1422.79		1394.05	1421.57	1443.77		1439.49	1287.59	1460.95		1419.53
9	1506.93	1529.10		1524.03	1473.86	1705.16		1666.99	1436.23	1593.95		1583.05	1438.81	1752.95		1714.79	1482.95	1640.15		1626.67
10	1561.24	1868.77		1853.03	1590.33	1993.62		1832.51	1615.10	1870.06		1842.35	1838.17	2070.73		2066.60	1583.31	1958.29		1925.45
11	2144.93	2197.84		2192.93	1966.45	2283.68		2196.79		2142.01		2142.01	1838.17	2322.39		2309.29		2312.89		2312.89
12		2236.83		2236.83		2712.89		2712.89		2488.30		2488.30	2451.34	2567.09		2554.59		2701.89		2701.89
13		2962.25		2962.25		2674.14		2674.14		2727.39		2727.39		2327.47		2327.47		2976.18		2976.18
14		3322.76		3322.76		3523.82		3523.82		3470.22		3470.22		4166.80		4166.80		3602.75		3602.75
15		5013.75		5013.75		3976.49		3976.49		4112.45		4112.45		4465.00		4465.00		3522.60		3522.60
16		6042.88		6042.88		5497.86		5497.86						6252.48		6252.48		4032.26		4032.26
17														6426.37		6426.37		5781.60		5781.60
18										7954.55		7954.55						6963.27		6963.27
19																				
20																				
Total	560.48	789.72	10.61	707.71	452.37	734.08	9.59	623.77	550.78	796.19	18.07	716.67	465.50	773.98	14.78	656.58	508.75	841.13	15.79	726.46

TABLE 11.- American plaice mean catch (kg) and SD by stratum. Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997		1998		1999		2000		2001		2002		2003		2004	
	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD
353	47.97	25.084	267.95	103.830	388.97	37.624	426.02	210.639	451.08	185.936	630.50	240.448	470.86	217.828	418.60	276.823
354	34.16	18.447	381.49	146.407	184.12	100.017	147.44	84.780	172.21	144.326	207.67	77.048	806.33	68.178	220.64	173.634
355	14.02	4.617	134.67	132.931	60.82	30.122	60.01	1.539	206.75	85.065	100.75	40.659	112.14	7.297	23.50	9.758
356	8.15	4.133	14.23	5.343	31.47	23.877	28.11	24.368	83.56	40.362	53.95	51.548	159.80	99.561	0.66	0.893
357	1.86	1.051	2.33	0.484	3.06	1.913	0.55	-	76.85	105.720	5.18	2.015	59.40	76.650	0.84	1.190
358	4.44	4.415	6.73	1.265	9.06	15.047	298.64	437.609	35.80	28.161	27.67	21.202	26.50	16.096	27.72	15.234
359	30.12	15.773	198.60	199.740	484.88	84.636	659.75	139.208	347.89	328.624	177.40	129.497	459.09	433.737	440.97	296.394
360	26.15	17.839	107.53	64.858	263.77	91.624	324.76	269.238	261.79	173.177	143.72	117.177	229.12	120.612	283.51	168.955
374	8.40	3.170	4.00	0.906	44.00	1.495	5.60	0.440	14.95	1.909	3.42	1.630	15.33	4.207	89.95	46.315
375	1.85	-	5.93	3.550	42.21	15.545	30.11	9.300	4.77	1.680	1.41	1.073	9.96	10.915	73.12	19.172
376	12.53	8.741	82.92	73.283	119.90	62.748	250.98	179.289	46.95	32.487	47.96	50.207	62.92	55.173	195.37	112.407
377	20.96	-	47.18	59.694	86.16	117.320	27.02	29.064	21.09	10.204	34.05	39.527	48.61	30.816	84.23	73.928
378	1.87	1.583	5.22	2.199	7.14	4.199	19.74	22.646	2.75	1.287	8.10	6.364	9.42	8.040	34.30	14.001
379	1.78	1.568	2.65	1.804	0.78	0.308	2.30	1.146	0.84	0.092	5.75	5.445	3.47	4.667	0.71	-
380	1.41	0.079	1.69	0.945	2.22	0.066	1.74	0.402	2.97	0.638	7.25	1.768	6.68	0.735	2.01	2.174
381	1.55	0.895	8.41	10.927	0.59	0.231	2.03	1.269	2.35	0.154	3.81	2.821	7.70	3.111	29.64	18.611
382	0.59	0.340	4.35	3.017	2.25	0.610	1.92	0.562	3.02	0.929	1.09	0.904	2.12	0.643	55.76	49.674
721	13.40	12.225	7.68	6.464	20.06	10.378	4.21	4.725	115.20	86.974	18.20	12.445	222.75	273.155	0.00	0.000
722	46.66	65.850	1.99	2.375	2.43	0.704	1.21	1.715	30.29	35.511	30.10	42.568	14.31	15.493	1.02	1.442
723	8.79	5.464	10.04	8.619	34.05	29.946	10.67	7.344	36.15	39.244	7.20	0.849	2.10	2.687	0.68	0.955
724	13.33	17.024	10.84	2.528	9.89	10.466	12.31	1.803	26.47	26.158	47.05	41.931	7.02	7.050	0.00	0.000
725	1.31	0.882	0.62	-	2.48	0.073	8.64	8.707	3.37	0.368	3.55	4.313	3.34	0.049	19.30	27.294
726	n.s.	n.s.	2.95	2.726	39.96	47.051	8.24	4.177	1.80	0.430	2.83	0.948	0.00	0.000	0.00	0.000
727	9.37	-	9.02	3.782	7.56	7.651	4.59	2.089	8.46	5.277	2.85	1.061	42.85	21.001	0.37	0.338
728	32.09	23.965	15.58	4.617	37.93	22.294	22.82	0.178	5.85	1.143	9.58	13.467	40.45	23.264	0.00	0.000
752	112.70	128.072	49.95	7.102	35.68	10.927	128.14	25.680	15.79	7.922	0.00	-	27.05	12.516	0.00	0.000
753	56.78	41.643	146.98	13.280	14.74	4.969	169.96	216.964	60.01	68.290	3.60	5.091	0.00	0.000	0.00	0.000
754	5.50	6.447	2.67	3.782	0.00	0.000	0.00	0.000	1.26	1.781	8.60	14.206	0.00	0.000	0.00	0.000
755	n.s.	n.s.	0.39	0.550	0.05	0.090	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
756	75.68	-	199.76	258.188	124.34	44.457	31.68	11.829	11.58	8.167	11.73	12.551	1.83	0.884	0.00	0.000
757	626.06	753.372	82.24	100.918	17.07	3.782	5.12	6.827	105.18	148.295	31.15	13.223	5.17	7.304	0.00	0.000
758	0.60	0.447	4.03	5.695	0.31	0.438	1.32	1.649	0.16	0.220	1.27	0.523	0.00	0.000	0.00	0.000
759	n.s.	n.s.	0.00	0.000	0.34	0.484	1.99	2.814	0.26	0.374	0.00	0.000	0.00	-	0.00	0.000
760	17.16	-	8.04	5.519	20.30	28.275	43.59	58.396	37.80	37.618	4.75	6.718	0.00	0.000	0.00	0.000
761	1.21	1.954	3.47	1.605	0.00	0.000	0.19	0.264	0.25	0.346	1.90	1.577	0.00	0.000	0.01	0.007
762	0.00	0.000	0.00	0.000	18.49	26.142	0.00	0.000	0.00	0.000	0.30	0.424	0.00	0.000	0.00	0.000
763	n.s.	n.s.	0.08	0.110	0.00	0.000	0.30	0.606	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
764	0.17	0.237	0.25	0.352	0.00	0.000	0.00	0.000	0.35	0.205	0.50	0.707	0.63	0.884	0.00	0.000
765	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.05	0.071	0.64	0.792	0.00	-	0.00	0.000
766	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.44	0.616	0.00	0.000	0.00	0.000	0.00	0.000
767	n.s.	n.s.	0.00	0.000	0.00	0.000	0.11	0.156	0.00	0.000	0.05	0.071	0.00	0.000	0.57	0.799

TABLE 11 (cont.).- American plaice mean catch (kg) and SD by stratum. Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	2005		2006		2007		2008		2009		2010		2011		2012	
	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD	A. Plaice Mean	A. Plaice SD
353	224.63	106.622	321.42	64.587	115.27	45.889	336.90	112.352	124.75	50.324	76.65	23.688	176.17	63.063	48.19	31.320
354	220.46	151.511	134.53	130.027	73.70	29.781	103.03	62.742	96.97	70.613	91.98	96.365	32.62	22.351	68.89	70.270
355	73.44	60.161	32.85	27.506	24.70	8.344	20.48	4.273	13.40	1.697	8.31	7.368	28.07	12.968	9.62	9.504
356	8.37	11.257	4.38	6.194	0.42	0.598	0.96	0.040	1.19	1.677	0.00	0.000	0.00	0.000	0.51	0.721
357	0.00	0.000	6.82	9.378	0.62	0.939	1.70	0.314	0.80	1.131	1.43	1.371	0.02	0.034	0.00	0.000
358	26.52	20.817	22.10	19.361	34.98	32.739	39.39	42.958	21.82	15.033	16.08	2.094	8.95	5.537	3.15	4.416
359	371.26	369.519	329.81	332.590	399.00	357.447	375.96	201.963	446.02	401.637	270.83	295.542	95.47	71.945	127.72	171.243
360	293.79	173.170	562.23	459.478	297.23	200.496	466.27	307.740	174.64	109.378	307.45	267.987	474.90	575.535	399.52	491.339
374	126.47	116.171	120.64	27.344	214.10	141.421	466.75	331.138	136.26	21.008	150.65	21.991	813.15	131.168	547.80	379.999
375	56.44	35.364	55.90	18.748	55.44	62.196	160.00	97.194	132.23	107.005	89.90	54.310	150.59	82.346	59.42	28.099
376	177.42	92.305	136.03	74.695	122.53	76.602	144.19	139.315	87.85	85.740	83.39	80.946	62.48	86.031	34.36	33.892
377	317.45	167.514	242.64	52.446	275.55	170.625	638.00	162.069	487.92	674.127	199.40	52.609	119.65	57.205	366.11	68.667
378	10.15	7.734	21.65	15.203	31.32	27.407	20.67	18.717	78.74	72.917	123.25	139.936	20.06	25.512	2.93	2.729
379	1.37	1.923	0.12	0.171	1.04	1.440	0.19	0.269	10.85	15.344	0.00	0.000	0.29	0.403	0.00	0.000
380	0.35	0.488	0.00	0.000	1.77	0.750	22.59	22.712	9.50	6.647	372.20	419.031	8.46	3.168	8.95	12.657
381	57.15	57.629	6.43	6.824	155.55	150.119	54.85	20.860	3.85	0.502	13.08	11.066	71.75	9.405	152.70	206.758
382	36.82	11.832	44.32	11.998	15.69	11.851	21.36	17.470	0.63	0.824	102.97	138.921	98.66	90.796	480.11	214.806
721	0.00	0.000	0.00	0.000	0.00	-	0.00	0.000	0.60	0.849	0.00	0.000	0.23	0.318	0.00	0.000
722	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
723	0.00	0.000	0.04	0.049	0.00	0.000	0.81	1.147	0.17	0.240	0.01	0.016	0.00	0.000	0.11	0.151
724	0.00	0.000	0.00	0.000	0.00	0.000	2.39	3.374	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
725	5.45	7.707	1.02	1.385	2.66	3.638	0.22	0.311	0.66	0.933	0.18	0.234	0.00	0.000	0.00	0.000
726	0.00	-	0.20	0.287	0.22	0.311	0.00	0.000	51.30	72.549	0.00	0.000	0.00	0.000	0.00	0.000
727	0.00	0.000	0.00	0.000	0.00	0.000	2.80	0.431	547.30	-	59.95	13.364	0.69	0.219	34.82	47.758
728	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000	246.60	306.319	0.00	0.000	0.00	0.000	1.30	1.838
752	0.00	0.000	0.07	0.092	0.72	0.346	0.00	0.000	0.05	0.064	0.00	0.000	0.00	0.000	0.00	0.000
753	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	n.s.	n.s.	0.00	0.000	0.00	0.000
754	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000
755	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	0.00	-	0.00	0.000	0.00	0.000
756	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
757	0.00	0.000	0.14	0.191	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
758	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
759	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	0.000	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000
760	6.10	8.627	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
761	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
762	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
763	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	0.000	n.s.	n.s.	n.s.	n.s.	0.00	0.000	0.00	0.000
764	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	n.s.	n.s.	0.00	0.000	0.00	0.000
765	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
766	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	0.000	0.19	0.269	0.00	0.000	0.00	0.000	0.00	0.000
767	0.00	-	0.00	0.000	n.s.	n.s.	0.00	0.000	n.s.	n.s.	n.s.	n.s.	0.00	0.000	0.00	0.000

TABLE 12.- Stratified mean catches (Kg) by stratum and year and SD by year of American plaice (1997-2012). n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
353	12904	72079	104632	114600	121340	169605	126660	112603	60426	86461	31007	90626	33558	20619	47390	12962
354	8402	93846	45294	36270	42364	51086	198357	54277	54234	33093	18130	25346	23855	22627	8026	16947
355	1038	9965	4501	4441	15300	7456	8298	1739	5435	2431	1828	1516	992	615	2077	712
356	383	669	1479	1321	3927	2536	7511	31	393	206	20	45	56	0	0	24
357	305	382	502	91	12603	849	9742	138	0	1118	102	279	131	235	4	0
358	1000	1514	2037	67195	8055	6225	5963	6236	5966	4972	7871	8863	4910	3618	2015	710
359	12680	83609	204133	277757	146460	74685	193275	185648	156302	138850	167979	158278	187774	114019	40191	53769
360	72766	299248	734066	903798	728548	399985	637653	789018	817626	1564675	827191	1297629	486023	855641	1321652	1111864
374	1797	856	9415	1198	3199	732	3280	19249	27064	25816	45817	99885	29159	32239	174014	117229
375	501	1607	11439	8161	1292	381	2698	19816	15294	15149	15024	43360	35834	24363	40809	16102
376	16719	110620	159943	334810	62631	63979	83931	260620	236676	181467	163455	192352	117198	111237	83346	45838
377	2096	4718	8616	2702	2109	3405	4861	8423	31745	24264	27555	63800	48792	19940	11965	36611
378	259	726	992	2744	382	1126	1309	4768	1411	3009	4353	2872	10945	17132	2788	407
379	188	281	82	244	89	610	368	75	145	13	110	20	1150	0	30	0
380	135	163	213	167	285	696	641	193	33	0	170	2169	912	35731	812	859
381	223	1211	85	292	338	548	1109	4268	8230	925	22399	7898	554	1883	10332	21989
382	203	1493	771	657	1037	373	726	19127	12628	15201	5382	7328	215	35318	33839	164679
721	871	499	1304	274	7488	1183	14479	0	0	0	0	0	39	0	15	0
722	3919	167	204	102	2544	2528	1202	86	0	0	0	0	0	0	0	0
723	1363	1557	5277	1653	5603	1116	326	105	0	5	0	126	26	2	0	17
724	1653	1344	1226	1527	3282	5834	870	0	0	0	0	296	0	0	0	0
725	138	65	260	908	354	373	350	2027	572	107	279	23	69	19	0	0
726	n.s.	213	2877	593	129	204	0	0	0	15	16	0	3694	0	0	0
727	900	866	725	440	812	274	4114	35	0	0	0	268	52541	5755	66	3343
728	2503	1215	2959	1780	456	747	3155	0	0	0	0	0	19235	0	0	101
752	14764	6544	4674	16786	2069	0	3544	0	0	9	95	0	6	0	0	0
753	7835	20283	2034	23454	8281	497	0	0	0	0	0	0	0	n.s.	0	0
754	989	481	0	0	227	1549	0	0	0	0	0	0	0	0	0	0
755	n.s.	150	20	0	0	0	0	0	0	0	0	0	0	0	0	0
756	7644	20176	12559	3200	1169	1184	184	0	0	0	0	0	0	0	0	0
757	63858	8389	1741	523	10728	3177	527	0	0	14	0	0	0	0	0	0
758	60	399	31	131	15	126	0	0	0	0	0	0	0	0	0	0
759	n.s.	0	43	253	34	0	0	0	0	0	n.s.	0	0	0	0	0
760	2643	1238	3127	6713	5821	732	0	0	939	0	0	0	0	0	0	0
761	207	593	0	32	42	324	0	1	0	0	0	0	0	0	0	0
762	0	0	3919	0	0	64	0	0	0	0	n.s.	0	0	0	0	0
763	n.s.	20	0	79	0	0	0	0	0	0	n.s.	0	n.s.	n.s.	0	0
764	17	25	0	0	35	50	63	0	0	0	0	0	0	n.s.	0	0
765	0	0	0	0	6	79	0	0	0	0	0	0	0	0	0	0
766	0	0	0	0	63	0	0	0	0	0	n.s.	0	27	0	0	0
767	n.s.	0	0	17	0	8	0	89	0	0	n.s.	0	n.s.	n.s.	0	0
TOTAL	240961	747210	1331180	1814913	1199115	804322	1315194	1488572	1435120	2097800	1338783	2002980	1057695	1300993	1779371	1604162
\bar{Y}	25.80	72.25	128.72	175.49	115.95	77.77	127.17	143.93	138.77	202.84	141.82	193.67	106.59	134.33	172.05	155.11
S.D.	5.09	6.51	6.85	19.24	12.31	7.46	10.79	13.03	12.92	29.01	15.31	20.39	11.31	22.27	34.95	30.53

TABLE 13.- Survey estimates (by the swept area method) of American plaice biomass (t) and SD by stratum and year in NAFO Div. 3NO. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
353	1075	6200	8719	9651	10666	14245	11385	10009	5143	6987	2557	7967	2918	1833	4077	1152
354	723	7903	4165	3054	3766	4302	17632	4720	4616	2729	1495	2204	2120	2011	698	1506
355	89	901	393	382	1275	631	726	152	483	196	152	137	85	54	179	62
356	34	60	129	117	327	218	668	3	34	17	2	4	5	0	0	2
357	28	32	43	7	1034	71	852	12	0	92	8	24	23	21	0	0
358	89	130	175	5907	700	541	530	567	513	428	642	771	432	322	175	65
359	1103	7192	16836	23702	12775	6530	17099	16424	13445	11393	13753	13871	16345	9704	3489	4668
360	6203	25808	59988	75434	60151	34903	56586	68313	70333	127046	69585	110908	42774	73604	111356	94879
374	153	73	773	100	267	64	292	1656	2366	2185	3818	8592	2592	2866	15468	10250
375	43	140	968	670	115	32	245	1761	1316	1249	1239	3898	3150	2009	3401	1385
376	1479	9578	13124	27901	5422	5612	7461	22347	20164	14890	13794	17041	10349	9888	7078	3880
377	180	413	718	236	184	298	432	774	2731	2054	2296	5488	4337	1715	1029	3201
378	25	62	87	236	32	97	116	424	125	251	374	239	957	1523	232	36
379	18	24	7	22	8	53	32	6	12	1	9	2	101	0	3	0
380	13	14	18	14	28	62	56	17	3	0	14	193	80	3025	71	75
381	20	106	7	25	29	48	97	379	708	81	1867	691	48	154	889	1988
382	18	131	64	53	88	33	64	1659	1104	1297	445	641	19	3038	3008	14517
721	79	49	107	23	605	102	1287	0	0	0	0	0	3	0	1	0
722	367	16	18	9	219	214	109	8	0	0	0	0	0	0	0	0
723	130	134	461	134	467	96	28	9	0	0	0	11	2	0	0	1
724	147	130	109	131	279	519	77	0	0	0	0	27	0	0	0	0
725	13	8	23	86	30	33	31	180	48	9	25	2	6	2	0	0
726	n.s.	21	256	54	11	19	0	0	0	1	1	0	323	0	0	0
727	96	74	61	42	72	24	378	3	0	0	0	24	4670	480	6	288
728	234	118	255	170	40	65	280	0	0	0	0	0	1682	0	0	9
752	1358	572	402	1628	197	143	310	0	0	1	8	0	1	0	0	0
753	733	1865	178	2157	775	43	0	0	0	0	0	0	0	n.s.	0	0
754	90	46	0	0	23	6	0	0	0	0	0	0	0	0	0	0
755	n.s.	15	2	0	0	0	0	0	0	0	0	0	0	0	0	0
756	703	1793	1116	316	102	104	17	0	0	0	0	0	0	0	0	0
757	6307	813	150	49	923	282	48	0	0	1	0	0	0	0	0	0
758	6	37	3	12	1	11	0	0	0	0	0	0	0	0	0	0
759	n.s.	0	4	24	3	0	0	0	0	0	n.s.	0	0	0	0	0
760	252	116	278	639	509	64	0	0	82	0	0	0	0	0	0	0
761	20	57	0	3	4	29	0	0	0	0	0	0	0	0	0	0
762	0	0	373	0	0	6	0	0	0	0	n.s.	0	0	0	0	0
763	n.s.	2	0	8	0	0	0	0	0	0	n.s.	0	n.s.	n.s.	0	0
764	2	2	0	0	3	4	6	0	0	0	0	0	0	n.s.	0	0
765	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0
766	0	0	0	0	6	0	0	0	0	0	n.s.	0	2	0	0	0
767	n.s.	0	0	2	0	1	0	8	0	0	n.s.	0	n.s.	n.s.	0	0
TOTAL	21827	64635	110010	152997	101137	69511	116842	129432	123227	170910	112086	172735	93025	112247	151160	137964
S.D.	4495	5946	5825	16740	10841	7097	9777	12335	11396	24806	13032	17696	10258	18089	29753	27395

TABLE 14.- Length weight relationships in the calculation of American plaice biomass. The equation is $Weight = a(l + 0.5)^b$ Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. To calculate the parameters for the indeterminate individuals, we used the total data (males + females + indeterminate individuals)

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Males	a	0.0043	0.0041	0.0049	0.0024	0.0064	0.0041	0.0037	0.0075	0.0027	0.0061	0.0050	0.0042	0.0054	0.0027	0.0047	0.0053
		E = 0.1296	E = 0.1200	E = 0.2799	E = 0.1281	E = 0.1556	E = 0.0660	E = 0.0752	E = 0.1483	E = 0.0882	E = 0.1501	E = 0.0603	E = 0.0551	E = 0.0842	E = 0.1264	E = 0.0919	E = 0.1089
	b	3.1794	3.1943	3.1454	3.3523	3.0742	3.1930	3.2287	3.0284	3.3274	3.0860	3.1406	3.1878	3.1082	3.3231	3.1560	3.1303
		E = 0.0378	E = 0.0348	E = 0.0817	E = 0.0382	E = 0.0485	E = 0.0205	E = 0.0234	E = 0.0468	E = 0.0274	E = 0.0458	E = 0.0185	E = 0.0173	E = 0.0261	E = 0.0398	E = 0.0276	E = 0.0323
		R ² = 0.995 N = 1050	R ² = 0.996 N = 573	R ² = 0.983 N = 183	R ² = 0.995 N = 321	R ² = 0.992 N = 188	R ² = 0.988 N = 384	R ² = 0.998 N = 622	R ² = 0.992 N = 411	R ² = 0.997 N = 311	R ² = 0.996 N = 434	R ² = 0.999 N = 645	R ² = 0.999 N = 429	R ² = 0.997 N = 305	R ² = 0.995 N = 382	R ² = 0.997 N = 557	R ² = 0.998 N = 426
Females	a	0.0027	0.0027	0.0048	0.0020	0.0039	0.0032	0.0030	0.0047	0.0027	0.0049	0.0048	0.0031	0.0027	0.0027	0.0036	0.0039
		E = 0.1058	E = 0.0595	E = 0.1420	E = 0.0981	E = 0.0624	E = 0.0628	E = 0.0549	E = 0.0807	E = 0.0634	E = 0.0781	E = 0.0719	E = 0.0579	E = 0.0690	E = 0.1016	E = 0.0637	E = 0.0907
	b	3.3263	3.3218	3.1704	3.4049	3.2256	3.2752	3.2918	3.1757	3.3290	3.1703	3.1754	3.2870	3.3232	3.3332	3.2453	3.2240
		E = 0.0291	E = 0.0162	E = 0.0389	E = 0.0271	E = 0.0177	E = 0.0178	E = 0.0157	E = 0.0228	E = 0.0177	E = 0.0219	E = 0.0206	E = 0.0163	E = 0.0191	E = 0.0287	E = 0.0181	E = 0.0250
		R ² = 0.998 N = 1396	R ² = 0.999 N = 937	R ² = 0.993 N = 201	R ² = 0.998 N = 402	R ² = 0.998 N = 370	R ² = 0.998 N = 703	R ² = 0.999 N = 960	R ² = 0.997 N = 765	R ² = 0.998 N = 569	R ² = 0.999 N = 757	R ² = 0.9974 N = 1000	R ² = 0.999 N = 768	R ² = 0.997 N = 559	R ² = 0.996 N = 695	R ² = 0.998 N = 1038	R ² = 0.999 N = 715
Indet.	a	0.0026	0.0028	0.0022	0.0020	0.0054	0.0035	0.0032	0.0069	0.0025	0.0045	0.0041	0.0030	0.0048	0.0033	0.0039	0.0043
		E = 0.0928	E = 0.0602	E = 0.1531	E = 0.0817	E = 0.0866	E = 0.0599	E = 0.0581	E = 0.1315	E = 0.0523	E = 0.0483	E = 0.0493	E = 0.0428	E = 0.1173	E = 0.0545	E = 0.0613	E = 0.0889
	b	3.3370	3.3153	3.3812	3.4049	3.1409	3.2527	3.2795	3.0712	3.3552	3.1868	3.2121	3.2912	3.1692	3.2755	3.2285	3.1992
		E = 0.0255	E = 0.0164	E = 0.0431	E = 0.0226	E = 0.0248	E = 0.0171	E = 0.0167	E = 0.0382	E = 0.0148	E = 0.0138	E = 0.0142	E = 0.0122	E = 0.0337	E = 0.0156	E = 0.0176	E = 0.0243
		R ² = 0.997 N = 2446	R ² = 0.999 N = 1513	R ² = 0.989 N = 386	R ² = 0.997 N = 726	R ² = 0.996 N = 573	R ² = 0.998 N = 1087	R ² = 0.998 N = 1587	R ² = 0.990 N = 1226	R ² = 0.999 N = 884	R ² = 0.999 N = 1213	R ² = 0.999 N = 1699	R ² = 0.999 N = 1212	R ² = 0.990 N = 876	R ² = 0.999 N = 1091	R ² = 0.998 N = 1597	R ² = 0.999 N = 1141

TABLE 15.- American plaice length distribution. Estimated numbers per haul stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels. (*) indicates untransformed data.

Length (cm.)	1997				1998				1999				2000				2001				2002			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.045	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	2.401	2.422	0.000	0.000	0.052	0.052
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.031	1.194	1.245	0.005	0.133	0.013	0.152
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.087	5.812	22.898	0.203	10.681	0.227	11.111	0.280	1.972	0.217	2.469	0.853	1.420	0.091	2.365
12	0.000	0.000	0.000	0.000	0.007	0.008	0.000	0.015	0.000	4.272	4.272	8.543	11.240	11.450	0.117	22.807	3.620	4.188	0.757	8.565	4.606	6.883	0.135	11.625
14	0.073	0.049	0.000	0.121	0.009	0.000	0.000	0.009	0.289	1.667	0.190	2.146	30.021	34.561	0.000	64.582	5.797	7.593	0.398	13.788	3.250	3.490	0.027	6.768
16	0.136	0.242	0.000	0.378	0.546	0.263	0.000	0.809	1.474	2.739	0.000	4.212	59.167	75.997	0.000	135.164	10.535	10.617	0.031	21.183	1.688	2.104	0.000	3.792
18	0.648	0.705	0.023	1.377	0.044	0.146	0.000	0.190	0.210	0.894	0.000	1.104	24.333	41.298	0.005	65.635	48.738	38.461	0.010	87.210	6.588	6.831	0.000	13.420
20	1.215	0.750	0.000	1.966	0.370	0.163	0.000	0.533	0.398	0.508	0.000	0.906	4.514	5.307	0.000	9.821	69.747	56.807	0.000	126.554	10.751	8.917	0.000	19.668
22	2.337	1.371	0.000	3.708	1.053	0.693	0.000	1.746	0.765	0.857	0.000	1.622	2.416	2.785	0.000	5.201	36.774	35.802	0.000	72.576	26.930	17.681	0.000	44.611
24	2.605	1.883	0.000	4.489	3.474	2.310	0.000	5.784	2.904	0.468	0.000	3.372	1.722	1.695	0.000	3.417	7.776	13.101	0.000	20.877	34.971	33.222	0.000	68.193
26	4.484	2.641	0.000	7.126	5.241	3.713	0.000	8.954	10.069	2.129	0.000	12.197	2.762	0.685	0.000	3.447	3.211	3.416	0.000	6.627	21.342	29.173	0.000	50.515
28	8.809	2.201	0.000	11.010	8.847	4.872	0.000	13.719	19.126	7.192	0.000	26.318	7.298	1.581	0.000	8.879	4.639	1.994	0.000	6.633	7.317	13.800	0.000	21.117
30	7.228	3.773	0.000	11.001	11.342	5.977	0.000	17.319	29.710	11.614	0.000	41.323	18.574	3.666	0.000	22.240	11.353	1.499	0.000	12.852	5.530	4.861	0.000	10.391
32	5.657	4.242	0.000	9.898	10.173	8.235	0.000	18.408	24.357	10.595	0.000	34.952	25.029	7.213	0.000	32.242	18.793	2.218	0.000	21.012	7.801	1.697	0.000	9.498
34	3.662	4.350	0.000	8.012	7.537	13.315	0.000	20.852	16.253	10.386	0.000	26.638	15.779	13.921	0.000	29.699	15.703	4.001	0.000	19.705	7.563	1.390	0.000	8.953
36	1.897	4.574	0.000	6.471	4.471	15.805	0.000	20.276	9.405	18.159	0.000	27.564	9.881	16.429	0.000	26.310	8.760	9.830	0.000	18.591	5.397	1.575	0.000	6.973
38	0.964	3.885	0.000	4.849	2.240	15.381	0.000	17.621	4.435	20.646	0.000	25.081	4.817	18.573	0.000	23.390	3.802	11.082	0.000	14.884	2.528	4.239	0.000	6.767
40	0.359	3.021	0.000	3.381	0.785	12.615	0.000	13.400	1.846	23.474	0.000	25.320	2.094	26.863	0.000	28.957	1.392	13.048	0.000	14.440	1.263	6.464	0.000	7.726
42	0.205	1.968	0.000	2.173	0.462	8.995	0.000	9.457	0.370	18.287	0.000	18.657	1.180	25.649	0.000	26.828	0.889	13.008	0.000	13.897	0.411	8.085	0.000	8.496
44	0.182	1.128	0.000	1.310	0.117	6.272	0.000	6.388	0.467	12.030	0.000	12.497	0.465	19.940	0.000	20.404	0.354	11.312	0.000	11.666	0.164	6.918	0.000	7.081
46	0.039	0.666	0.000	0.705	0.119	3.702	0.000	3.821	0.043	6.881	0.000	6.924	0.266	13.733	0.000	13.999	0.060	8.611	0.000	8.672	0.031	5.848	0.000	5.878
48	0.006	0.433	0.000	0.438	0.025	2.391	0.000	2.416	0.020	4.457	0.000	4.478	0.233	8.588	0.000	8.821	0.000	5.567	0.000	5.567	0.018	3.791	0.000	3.810
50	0.003	0.385	0.000	0.388	0.000	1.132	0.000	1.132	0.000	3.395	0.000	3.395	0.031	6.231	0.000	6.263	0.000	3.461	0.000	3.461	0.024	2.186	0.000	2.210
52	0.000	0.158	0.000	0.158	0.000	0.476	0.000	0.476	0.000	1.747	0.000	1.747	0.092	3.692	0.000	3.784	0.000	1.021	0.000	1.021	0.051	1.614	0.000	1.666
54	0.000	0.122	0.000	0.122	0.023	0.380	0.000	0.404	0.000	1.360	0.000	1.360	0.000	3.440	0.000	3.440	0.000	1.245	0.000	1.245	0.000	1.152	0.000	1.152
56	0.000	0.047	0.000	0.047	0.000	0.301	0.000	0.301	0.000	0.938	0.000	0.938	0.000	1.172	0.000	1.172	0.010	0.755	0.000	0.765	0.000	0.720	0.000	0.720
58	0.000	0.037	0.000	0.037	0.000	0.314	0.000	0.314	0.000	0.432	0.000	0.432	0.000	1.290	0.000	1.290	0.000	0.546	0.000	0.546	0.000	0.351	0.000	0.351
60	0.000	0.034	0.000	0.034	0.000	0.306	0.000	0.306	0.000	0.401	0.000	0.401	0.000	1.120	0.000	1.120	0.000	0.335	0.000	0.335	0.000	0.231	0.000	0.231
62	0.000	0.054	0.000	0.054	0.000	0.103	0.000	0.103	0.000	0.047	0.000	0.047	0.000	1.168	0.000	1.168	0.000	0.250	0.000	0.250	0.000	0.139	0.000	0.139
64	0.000	0.057	0.000	0.057	0.000	0.122	0.000	0.122	0.000	0.298	0.000	0.298	0.000	0.637	0.000	0.637	0.000	0.045	0.000	0.045	0.000	0.020	0.000	0.020
66	0.000	0.008	0.000	0.008	0.000	0.045	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.078	0.000	0.078	0.000	0.101	0.000	0.101
68	0.000	0.011	0.000	0.011	0.000	0.091	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.004	0.000	0.006	0.000	0.006
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.086	0.000	0.086	0.000	0.016	0.000	0.016	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.000	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.054	0.000	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	40.51	38.8	0.02	79.33	56.88	108.12	0.00	165.01	122.14	183.01	10.27	315.43	222.12	359.47	0.35	581.93	252.25	261.94	5.05	519.24	149.08	175.04	0.32	324.45
N° samples (*):				116				108				93				96				81				108
N° Ind. (*):	8297	5729	3	14029	4640	7390	0	12030	4541	7742	4	12287	3732	7721	5	11458	4996	7906	114	13016	5873	7234	12	13119
Sampled catch:				1390				1617				1858				1697				3388				3675
Range (*):				14-68				13-68				10-77				11-72				5-70				7-68
Total catch:				4209				8540				10565				15533				11477				9201
Total hauls (*):				128				124				114				118				123				125

TABLE 15 (cont.).- American plaice length distribution. Estimated numbers per haul stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels. (*) indicates untransformed data.

Length (cm.)	2003				2004				2005				2006				2007			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.159	0.159
6	0.188	0.044	0.287	0.519	0.084	0.090	8.701	8.875	0.014	0.007	0.513	0.534	0.043	0.000	0.096	0.139	0.357	0.306	2.373	3.036
8	0.356	0.223	0.056	0.635	1.027	0.746	49.783	51.556	0.172	0.400	1.875	2.446	0.019	0.010	0.095	0.124	0.756	0.622	1.006	2.384
10	0.074	0.142	0.065	0.280	0.133	0.271	6.226	6.630	1.474	1.177	0.099	2.750	0.072	0.060	0.000	0.131	0.117	0.112	0.045	0.275
12	0.814	0.891	0.000	1.705	1.164	1.209	0.004	2.377	29.728	22.828	0.062	52.618	2.843	2.168	0.000	5.011	0.273	0.273	0.019	0.565
14	1.576	1.005	0.000	2.581	6.529	4.615	0.000	11.145	46.137	45.635	0.056	91.828	8.939	8.049	0.000	16.989	0.409	0.230	0.000	0.639
16	6.969	5.441	0.000	12.410	3.692	3.184	0.000	6.875	22.245	20.487	0.000	42.733	15.983	14.714	0.000	30.697	1.201	1.058	0.000	2.259
18	17.873	13.925	0.000	31.798	1.904	1.239	0.000	3.143	6.715	6.709	0.000	13.424	68.546	51.271	0.000	119.817	7.895	7.011	0.000	14.906
20	7.441	7.791	0.000	15.232	4.051	3.190	0.000	7.241	6.343	5.253	0.000	11.596	95.356	94.226	0.000	189.583	18.350	11.397	0.000	29.748
22	14.162	8.973	0.000	23.135	18.341	8.930	0.000	27.271	3.618	3.026	0.000	6.644	33.891	37.382	0.000	71.273	44.794	25.820	0.000	70.614
24	35.284	11.606	0.000	46.890	18.592	14.481	0.000	33.073	7.908	3.341	0.000	11.249	16.301	12.507	0.000	28.808	49.297	38.741	0.000	88.038
26	62.238	21.586	0.000	83.823	27.188	10.344	0.000	37.532	17.567	6.709	0.000	24.276	18.093	10.179	0.000	28.272	25.290	24.747	0.000	50.037
28	42.882	44.576	0.000	87.458	46.289	14.760	0.000	61.048	31.709	13.734	0.000	45.444	32.376	6.712	0.000	39.087	20.585	12.655	0.000	33.240
30	17.283	42.818	0.000	60.100	36.904	23.718	0.000	60.622	46.328	13.928	0.000	60.256	57.378	11.702	0.000	69.080	25.139	7.487	0.000	32.626
32	11.921	19.885	0.000	31.805	17.960	43.845	0.000	61.804	32.463	16.433	0.000	48.896	48.434	22.092	0.000	70.526	25.351	7.517	0.000	32.868
34	11.256	8.363	0.000	19.618	10.580	42.211	0.000	52.791	14.535	26.469	0.000	41.005	26.510	20.787	0.000	47.297	16.904	10.904	0.000	27.809
36	8.333	3.467	0.000	11.800	6.172	20.482	0.000	26.654	7.360	35.775	0.000	43.134	12.445	26.465	0.000	38.909	6.664	14.769	0.000	21.433
38	4.505	2.965	0.000	7.470	3.628	6.955	0.000	10.583	3.353	24.246	0.000	27.600	4.025	37.156	0.000	41.181	4.007	18.315	0.000	22.321
40	1.685	4.476	0.000	6.161	1.587	4.815	0.000	6.402	0.745	10.301	0.000	11.046	1.775	28.755	0.000	30.530	1.327	21.746	0.000	23.074
42	0.475	7.659	0.000	8.135	0.582	5.407	0.000	5.990	0.202	4.700	0.000	4.903	0.304	12.994	0.000	13.297	0.463	15.291	0.000	15.754
44	0.147	6.731	0.000	6.877	0.183	6.655	0.000	6.838	0.057	3.419	0.000	3.477	0.216	6.821	0.000	7.037	0.137	7.011	0.000	7.148
46	0.063	6.855	0.000	6.917	0.109	7.216	0.000	7.325	0.164	3.433	0.000	3.597	0.014	3.300	0.000	3.314	0.118	4.045	0.000	4.163
48	0.000	5.653	0.000	5.653	0.000	5.071	0.000	5.071	0.090	2.990	0.000	3.080	0.037	3.481	0.000	3.518	0.044	2.998	0.000	3.041
50	0.000	3.517	0.000	3.517	0.008	3.552	0.000	3.559	0.107	2.272	0.000	2.379	0.000	3.394	0.000	3.394	0.051	1.920	0.000	1.970
52	0.000	3.150	0.000	3.150	0.000	2.925	0.000	2.925	0.049	1.634	0.000	1.683	0.000	2.126	0.000	2.126	0.010	1.822	0.000	1.832
54	0.000	2.273	0.000	2.273	0.000	2.326	0.000	2.326	0.000	1.531	0.000	1.531	0.000	1.451	0.000	1.451	0.000	1.783	0.000	1.783
56	0.000	1.159	0.000	1.159	0.059	1.604	0.000	1.663	0.000	1.546	0.000	1.546	0.000	2.357	0.000	2.357	0.000	1.473	0.000	1.473
58	0.000	0.804	0.000	0.804	0.000	1.066	0.000	1.066	0.000	0.905	0.000	0.905	0.000	1.581	0.000	1.581	0.000	1.065	0.000	1.065
60	0.000	0.447	0.000	0.447	0.000	0.271	0.000	0.271	0.000	0.753	0.000	0.753	0.000	0.763	0.000	0.763	0.000	0.707	0.000	0.707
62	0.000	0.073	0.000	0.073	0.000	0.294	0.000	0.294	0.000	0.407	0.000	0.407	0.000	0.300	0.000	0.300	0.000	0.475	0.000	0.475
64	0.000	0.222	0.000	0.222	0.000	0.162	0.000	0.162	0.000	0.174	0.000	0.174	0.000	0.200	0.000	0.200	0.000	0.449	0.000	0.449
66	0.000	0.032	0.000	0.032	0.000	0.132	0.000	0.132	0.000	0.302	0.000	0.302	0.000	0.088	0.000	0.088	0.000	0.068	0.000	0.068
68	0.000	0.000	0.000	0.000	0.000	0.049	0.000	0.049	0.000	0.081	0.000	0.081	0.000	0.019	0.000	0.019	0.000	0.039	0.000	0.039
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.015	0.000	0.015	0.000	0.015
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.014	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.015
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000
Total	245.522	236.752	0.407	482.682	206.765	241.817	64.714	513.296	279.087	280.604	2.603	562.294	443.600	423.144	0.191	866.936	249.539	242.885	3.602	496.025
N° samples (*):				91				75				70				73				75
N° Ind. (*):	6122	7333	9	13464	5076	7561	1353	13990	6097	8494	62	14653	5942	8030	20	13992	5356	6995	163	12514
Sampled catch:				3885				4614				4556				5906				4342
Range (*):				6-66				6-68				6-69				6-77				5-75
Total catch:				13955				13729				13193				17334				12282
Total hauls (*):				118				120				119				120				111

TABLE 15 (cont.).- American plaice length distribution. Estimated numbers per haul stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels. (*) indicates untransformed data.

Length (cm.)	2008				2009				2010				2011				2012			
	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total	Males	Females	Indet.	Total
2	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.084	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.022	0.000	0.394	0.416	0.009	0.009	1.252	1.269	0.020	0.007	0.195	0.221	0.000	0.000	0.000	0.000	0.000	0.000	0.079	0.079
8	0.594	0.777	0.399	1.770	0.323	0.255	1.828	2.406	0.040	0.106	0.000	0.146	0.000	0.078	0.000	0.078	0.000	0.000	0.135	0.135
10	16.878	13.351	7.196	37.425	0.624	0.443	0.831	1.899	5.652	5.813	0.000	11.465	0.063	0.066	0.000	0.128	0.064	0.016	0.277	0.357
12	13.308	12.346	4.442	30.097	1.056	0.761	0.151	1.968	13.825	12.833	0.000	26.658	0.195	0.220	0.000	0.415	0.038	0.033	0.194	0.265
14	3.366	2.820	0.067	6.252	3.309	2.975	0.097	6.380	9.208	9.087	0.000	18.295	3.230	1.081	0.010	4.321	0.037	0.332	0.000	0.369
16	1.881	1.781	0.000	3.662	6.313	7.598	0.068	13.978	5.606	5.537	0.000	11.142	15.370	10.447	0.000	25.816	0.379	0.496	0.000	0.875
18	2.321	1.569	0.043	3.934	3.348	4.013	0.000	7.361	10.834	9.345	0.000	20.179	18.082	20.344	0.000	38.426	3.398	1.464	0.000	4.863
20	10.242	6.556	0.000	16.798	2.673	2.552	0.000	5.225	16.893	14.650	0.000	31.543	15.116	10.105	0.000	25.222	16.317	12.092	0.000	28.409
22	35.516	17.364	0.000	52.881	5.638	3.474	0.000	9.112	15.894	10.922	0.000	26.817	24.201	10.896	0.000	35.098	30.991	21.311	0.000	52.301
24	64.851	29.146	0.000	93.997	13.784	5.481	0.000	19.265	24.252	9.510	0.000	33.762	41.480	24.442	0.000	65.922	34.632	20.584	0.000	55.215
26	63.778	56.716	0.000	120.494	23.336	12.973	0.000	36.309	40.883	7.316	0.000	48.199	51.597	23.269	0.000	74.867	54.164	22.669	0.000	76.833
28	33.117	50.360	0.000	83.477	21.745	23.534	0.000	45.279	56.452	16.059	0.000	72.511	75.074	14.248	0.000	89.322	74.377	30.164	0.000	104.542
30	34.622	22.353	0.000	56.975	17.699	24.519	0.000	42.217	39.702	24.479	0.000	64.181	69.544	17.391	0.000	86.935	64.827	20.397	0.000	85.224
32	32.584	12.761	0.000	45.345	13.522	15.402	0.000	28.924	25.227	25.449	0.000	50.677	39.504	31.733	0.000	71.236	40.060	21.282	0.000	61.342
34	20.248	10.758	0.000	31.007	11.775	8.900	0.000	20.675	11.550	20.411	0.000	31.961	20.299	39.746	0.000	60.045	20.386	23.807	0.000	44.192
36	11.713	15.283	0.000	26.996	5.686	8.568	0.000	14.254	3.882	10.721	0.000	14.603	8.914	26.537	0.000	35.451	7.540	25.102	0.000	32.642
38	3.739	20.729	0.000	24.468	2.408	11.090	0.000	13.498	1.226	8.739	0.000	9.965	1.757	14.690	0.000	16.447	2.028	15.882	0.000	17.910
40	1.600	26.714	0.000	28.314	0.838	15.607	0.000	16.445	0.395	9.650	0.000	10.046	0.875	10.742	0.000	11.616	0.960	8.640	0.000	9.601
42	0.410	22.139	0.000	22.548	0.306	13.462	0.000	13.768	0.081	8.885	0.000	8.965	0.077	10.603	0.000	10.679	0.209	7.553	0.000	7.762
44	0.284	14.339	0.000	14.623	0.034	9.311	0.000	9.346	0.000	7.461	0.000	7.461	0.000	7.054	0.000	7.054	0.114	4.944	0.000	5.058
46	0.155	7.483	0.000	7.638	0.031	4.344	0.000	4.376	0.047	4.639	0.000	4.686	0.092	4.441	0.000	4.533	0.000	3.619	0.000	3.619
48	0.138	4.261	0.000	4.399	0.027	2.823	0.000	2.850	0.044	2.760	0.000	2.804	0.000	2.439	0.000	2.439	0.039	2.431	0.000	2.470
50	0.059	2.428	0.000	2.487	0.037	1.730	0.000	1.768	0.000	2.054	0.000	2.054	0.007	1.475	0.000	1.482	0.012	1.191	0.000	1.203
52	0.000	2.126	0.000	2.126	0.027	1.477	0.000	1.504	0.000	2.767	0.000	2.767	0.000	1.232	0.000	1.232	0.049	1.035	0.000	1.084
54	0.000	1.597	0.000	1.597	0.000	1.421	0.000	1.421	0.000	1.539	0.000	1.539	0.000	0.637	0.000	0.637	0.000	0.585	0.000	0.585
56	0.000	1.754	0.000	1.754	0.000	1.246	0.000	1.246	0.000	1.358	0.000	1.358	0.000	0.856	0.000	0.856	0.000	0.626	0.000	0.626
58	0.000	1.454	0.000	1.454	0.000	0.855	0.000	0.855	0.007	1.021	0.000	1.028	0.000	0.926	0.000	0.926	0.000	0.121	0.000	0.121
60	0.000	0.928	0.000	0.928	0.000	0.745	0.000	0.745	0.000	0.580	0.000	0.580	0.000	0.469	0.000	0.469	0.000	0.266	0.000	0.266
62	0.000	0.843	0.000	0.843	0.000	0.262	0.000	0.262	0.000	0.520	0.000	0.520	0.000	0.341	0.000	0.341	0.000	0.088	0.000	0.088
64	0.000	0.486	0.000	0.486	0.000	0.256	0.000	0.256	0.000	0.473	0.000	0.473	0.000	0.146	0.000	0.146	0.000	0.026	0.000	0.026
66	0.000	0.089	0.000	0.089	0.000	0.070	0.000	0.070	0.000	0.000	0.000	0.000	0.000	0.035	0.000	0.035	0.000	0.021	0.000	0.021
68	0.000	0.030	0.000	0.030	0.000	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.028	0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	351.426	361.373	12.541	725.340	134.548	186.163	4.328	325.039	281.719	234.732	0.195	516.645	385.477	286.713	0.010	672.200	350.620	246.778	0.684	598.083
N° samples (*):				75				76				57				70				67
N° Ind. (*):	5439	7861	247	13547	4571	6451	263	11285	3817	5613	12	9442	5295	7616	1	12912	4712	5894	37	10643
Sampled catch:				4318				3964				2795				3668				3067
Range (*):				6-77				3-69				6-74				8-69				6-67
Total catch:				17867				11219				9215				14415				13937
Total hauls (*):				122				109				95				122				122

TABLE 16.- Atlantic cod mean catch (kg) and SD by stratum. Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997		1998		1999		2000		2001		2002		2003		2004	
	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod	A. cod
	Mean catch	SD	Mean catch	SD	Mean catch	SD	Mean catch	SD	Mean catch	SD	Mean catch	SD	Mean catch	SD	Mean catch	SD
353	0.00	0.000	0.00	0.004	6.26	8.593	8.59	9.984	7.33	8.145	0.00	0.003	0.00	0.000	10.21	8.691
354	0.00	0.000	17.67	29.046	4.92	3.192	18.44	27.099	16.07	3.315	0.01	0.012	7.63	13.221	4.76	3.335
355	4.29	5.711	27.05	3.662	6.39	2.549	94.83	76.209	56.11	64.898	0.96	0.370	3.02	2.390	5.09	3.267
356	7.80	0.495	6.23	0.247	41.19	0.346	16.34	17.172	149.60	76.650	15.20	10.889	15.61	1.605	2.97	0.714
357	91.55	174.202	7.45	0.742	10.12	11.461	9.15	-	27.20	36.062	6.65	1.909	5.28	7.460	13.30	17.727
358	1.77	1.655	4.46	4.030	9.98	4.006	184.88	194.829	3.42	2.592	2.63	1.429	207.22	260.186	14.41	12.455
359	1.13	2.385	0.39	0.858	7.25	11.394	18.26	17.367	176.35	433.935	2.72	3.436	1.03	1.522	29.83	54.712
360	0.11	0.226	0.22	0.700	2.33	3.801	2.16	3.561	11.36	27.470	0.82	2.887	1.14	2.952	3.55	4.484
374	0.06	0.099	0.00	0.000	0.58	0.594	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
375	0.00	-	0.78	0.403	0.97	0.579	0.00	0.000	0.00	0.000	0.47	0.503	0.48	0.826	0.05	0.081
376	0.00	0.000	0.20	0.187	0.62	0.545	0.90	1.852	0.04	0.119	0.00	0.000	0.65	1.987	0.60	0.733
377	0.27	-	1.89	2.375	0.21	0.302	0.02	0.027	0.00	0.000	0.00	0.000	1.25	1.768	19.60	24.020
378	2.34	3.316	3.46	0.940	7.76	5.951	10.65	11.169	11.98	15.726	1.45	2.051	19.18	19.141	17.75	3.989
379	3.68	0.307	8.30	5.847	5.22	4.147	41.12	54.683	9.54	9.001	24.83	32.492	4.35	0.481	23.95	-
380	0.36	0.515	2.33	1.361	38.58	48.720	8.21	3.236	6.00	2.895	0.31	0.035	1.09	0.976	7.77	2.305
381	0.07	0.099	0.21	0.187	0.87	0.388	1.74	0.730	0.66	0.891	0.04	0.057	0.00	0.000	5.47	4.150
382	0.00	0.000	0.32	0.336	0.05	0.036	0.71	0.561	0.12	0.145	0.04	0.076	0.00	0.000	0.47	0.888
721	20.98	7.052	0.61	0.866	88.29	106.743	28.34	17.122	4.85	6.859	1.01	1.430	9.40	13.287	2.20	3.111
722	0.31	0.139	0.00	0.000	0.00	0.000	0.90	1.277	0.00	0.000	0.00	0.000	1.73	2.447	0.00	0.000
723	9.90	2.425	4.39	3.736	16.87	20.735	22.02	12.010	676.15	932.179	55.60	69.155	0.65	0.919	1.94	2.744
724	1.30	1.269	1488.84	2101.820	0.02	0.032	0.70	0.341	6.16	10.254	49.80	70.428	10.46	14.786	0.00	0.000
725	23.50	17.734	30.86	-	13.65	19.102	4.34	3.857	1367.61	1856.733	9.25	7.849	2.17	3.062	0.29	0.403
726	n.s.	n.s.	4.74	5.617	0.81	0.492	8.85	12.221	1.83	2.593	1122.95	1569.289	0.00	0.000	0.00	0.000
727	0.12	-	2.66	2.821	9.20	4.701	9.16	10.803	10.40	4.810	2.80	3.960	7.45	9.405	0.00	0.000
728	1.17	0.569	1.54	2.177	0.00	0.000	0.90	1.267	0.00	0.000	21.40	30.264	0.00	0.000	0.00	0.000
752	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
753	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
754	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
755	n.s.	n.s.	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
756	0.00	-	0.32	0.449	0.24	0.334	0.36	0.257	0.04	0.057	0.00	0.000	0.00	0.000	0.00	0.000
757	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	64.40	91.075	0.00	0.000	0.00	0.000
758	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	2.80	3.960	0.00	0.000	0.00	0.000
759	n.s.	n.s.	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	0.00	0.000
760	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
761	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.17	0.236	0.00	0.000	0.00	0.000
762	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.15	0.212	0.00	0.000	0.00	0.000
763	n.s.	n.s.	0.00	0.000	0.00	0.000	1.08	2.170	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
764	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
765	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	0.00	0.000
766	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
767	n.s.	n.s.	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000

TABLE 16 (cont.).- Atlantic cod mean catch (kg) and SD by stratum. Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012. Swept area in square miles. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V Playa de Mendiña data, and 2002-2012 data are original from R/V Vizconde de Eza. For 2001 there are data from the two vessels.

Stratum	2005		2006		2007		2008		2009		2010		2011		2012	
	A. cod Mean catch	A. cod SD	A. cod Mean catch	A. cod SD	A. cod Mean catch	A. cod SD	A. cod Mean catch	A. cod SD	A. cod Mean catch	A. cod SD	A. cod Mean catch	A. cod SD	A. cod Mean catch	A. cod SD	A. cod Mean catch	A. cod SD
353	4.20	3.962	11.53	7.341	0.14	0.138	0.04	0.070	0.00	0.000	0.00	0.000	10.99	9.954	15.47	26.789
354	6.76	8.311	10.98	14.032	16.81	14.624	64.76	69.913	25.17	21.163	12.41	0.576	12.26	12.012	6.40	11.085
355	1.97	0.255	3.04	0.078	41.34	12.820	2.30	3.253	3.63	4.448	17.89	15.203	14.17	3.217	9.13	1.773
356	1.43	1.478	3.88	3.247	0.96	1.351	13.45	13.011	2.94	3.585	4.98	7.036	5.19	2.135	3.48	0.389
357	3.98	4.603	12.75	8.400	1.42	1.323	6.31	8.917	14.29	15.293	28.52	31.314	8.33	11.780	5.80	1.131
358	22.75	17.967	82.54	80.442	113.84	43.776	249.58	302.829	50.33	41.797	78.96	86.769	35.08	43.032	19.26	21.031
359	57.31	134.609	372.36	643.214	3.17	4.658	224.94	196.538	520.11	821.106	850.41	1569.067	357.90	431.217	793.65	1704.521
360	2.47	4.698	7.35	8.119	2.42	4.606	10.10	14.465	162.21	719.968	6.17	9.104	355.05	1005.533	75.23	291.004
374	0.11	0.148	0.00	0.000	0.00	0.000	0.57	0.812	0.00	0.000	0.00	0.000	754.30	636.113	106.60	133.219
375	0.00	0.000	13.53	15.862	1.71	1.646	18.64	29.958	0.00	0.000	0.86	1.495	62.03	5.590	55.99	50.297
376	0.76	0.963	6.84	11.380	0.68	1.167	11.60	9.917	0.67	0.921	1.35	2.777	4.92	10.028	1.72	3.333
377	61.19	64.955	90.62	69.919	698.56	987.885	234.80	189.646	11.89	16.568	13.30	18.809	460.46	585.704	759.15	371.585
378	8.59	10.087	90.32	85.680	85.98	23.723	213.40	239.992	709.31	0.269	3328.75	3276.804	76.89	57.007	21.83	20.396
379	5.70	7.078	6.30	8.627	3.13	0.394	2.26	1.965	54.61	74.091	38.85	28.919	17.25	12.459	2.99	4.228
380	27.53	24.784	8.70	1.697	4.20	5.945	21.80	11.738	4.11	1.727	61.05	53.245	29.15	24.678	374.96	523.022
381	3.63	3.765	8.43	1.167	2.19	0.354	4.49	6.242	0.02	0.028	1.65	0.997	51.35	57.912	435.15	80.257
382	0.97	0.639	0.75	1.033	0.00	0.000	0.13	0.167	0.00	0.000	3.13	0.792	567.93	1113.893	666.47	483.488
721	0.00	0.000	0.00	0.000	0.00	-	1.24	1.747	1.00	1.414	0.00	0.000	0.00	0.000	5.00	1.131
722	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
723	0.00	0.000	0.00	0.000	3.15	4.455	5.54	7.835	17.29	8.641	0.00	0.000	5.18	7.326	4.42	2.659
724	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
725	1.47	2.073	0.00	0.000	11.89	11.823	0.61	0.863	2.19	3.090	11.62	16.433	1.65	2.333	2.59	3.656
726	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000	1.38	1.945	0.00	0.000	0.00	0.000	0.00	0.000
727	0.00	0.000	0.00	0.000	0.00	0.000	0.39	0.554	5.01	-	1.32	0.771	0.00	0.000	0.00	0.000
728	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
752	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.25	0.354	0.00	0.000	0.00	0.000	0.00	0.000
753	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	n.s.	n.s.	0	0	0.00	0.000
754	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000
755	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	0.00	-	0.00	0.000	0.00	0.000
756	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
757	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
758	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
759	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	0.000	0.00	-	0.00	0.000	0.00	0.000	0.00	0.000
760	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
761	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
762	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	0.000	0.00	0	0.00	0.000	0.00	0.000	0.00	0.000
763	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	00.00	n.s.	n.s.	n.s.	n.s.	0	0	0.00	0.000
764	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	-	n.s.	n.s.	0	0	0.00	0.000
765	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
766	0.00	0.000	0.00	0.000	n.s.	n.s.	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00	0.000
767	0.00	-	0.00	0.000	n.s.	n.s.	0.00	0.000	n.s.	n.s.	n.s.	n.s.	0.00	0.000	0.00	0.000

TABLE 17.- Stratified mean catches (Kg) by stratum and year and SD by year of Atlantic cod:(1997-2012. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
353	0	1	1684	2311	1973	0	0	2746	1130	3101	37	11	0	0	2956	4161
354	0	4347	1209	4536	3954	2	1878	1172	1662	2700	4134	15932	6191	3052	3016	1574
355	317	2002	473	7017	4152	71	223	377	146	225	3059	170	268	1324	1048	675
356	367	293	1936	768	7031	714	733	139	67	182	45	632	138	234	244	163
357	15015	1222	1659	1501	4461	1091	865	2180	652	2091	232	1034	2344	4678	1366	951
358	398	1003	2247	41597	769	593	46625	3242	5120	18571	25614	56156	11325	17765	7893	4334
359	474	165	3053	7687	74245	1147	435	12558	24129	156764	1335	94699	218966	358025	150677	334126
360	302	616	6479	6017	31605	2283	3169	9887	6869	20450	6724	28120	451440	17175	988098	209362
374	12	0	124	0	0	0	0	0	22	0	0	123	0	0	161420	22812
375	0	212	262	0	0	126	129	13	0	3666	464	5050	0	234	16811	15174
376	0	263	822	1203	50	0	865	802	1011	9130	911	15474	898	1798	6567	2289
377	27	189	21	2	0	0	125	1960	6119	9062	69856	23480	1189	1330	46046	75915
378	326	482	1079	1480	1665	202	2665	2467	1194	12554	11951	29663	98594	462696	10688	3035
379	390	880	553	4358	1011	2631	461	2539	604	668	332	240	5789	4118	1829	317
380	35	223	3704	788	576	30	105	746	2642	835	404	2093	394	5861	2798	35996
381	10	30	125	251	96	6	0	788	523	1213	315	646	3	238	7394	62662
382	0	108	18	244	41	15	0	161	332	256	0	46	0	1074	194798	228600
721	1364	40	5739	1842	315	66	611	143	0	0	0	80	65	0	0	325
722	26	0	0	76	0	0	145	0	0	0	0	0	0	0	0	0
723	1535	681	2614	3413	104803	8618	101	301	0	0	488	859	2680	0	803	685
724	161	184616	3	87	764	6175	1296	0	0	0	0	0	0	0	0	0
725	2468	3241	1433	456	143599	971	227	30	154	0	1248	64	229	1220	173	271
726	n.s.	341	58	638	132	80852	0	0	0	0	0	0	99	0	0	0
727	11	255	883	879	998	269	715	0	0	0	0	38	481	126	0	0
728	91	120	0	70	0	1669	0	0	0	0	0	0	0	0	0	0
752	0	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0
753	0	0	0	0	0	0	0	0	0	0	0	0	0	n.s.	0	0
754	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
755	n.s.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
756	0	32	24	36	4	0	0	0	0	0	0	0	0	0	0	0
757	0	0	0	0	0	6569	0	0	0	0	0	0	0	0	0	0
758	0	0	0	0	0	277	0	0	0	0	0	0	0	0	0	0
759	n.s.	0	0	0	0	0	0	0	0	0	n.s.	0	0	0	0	0
760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
761	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0
762	0	0	0	0	0	32	0	0	0	0	n.s.	0	0	0	0	0
763	n.s.	0	0	283	0	0	0	0	0	0	n.s.	0	n.s.	n.s.	0	0
764	0	0	0	0	0	0	0	0	0	0	0	0	0	n.s.	0	0
765	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
766	0	0	0	0	0	0	0	0	0	0	n.s.	0	0	0	0	0
767	n.s.	0	0	0	0	0	0	0	0	0	n.s.	0	n.s.	n.s.	0	0
TOTAL	23328	201361	36202	87541	382245	114437	61375	42249	52376	241467	127150	274608	801127	880947	1604625	1003428
\bar{Y}	2.50	19.47	3.50	8.46	36.96	11.07	5.93	4.09	5.06	23.35	13.47	26.55	80.73	90.96	155.16	97.02
S.D.	1.54	17.82	0.75	2.58	17.97	7.82	3.29	0.95	2.16	9.39	7.44	5.71	46.81	43.41	64.42	32.90

TABLE 18.- Survey estimates (by the swept area method) of Atlantic cod biomass (t) and SD by stratum and year in NAFO Div. 3NO. n.s. means stratum not surveyed. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

Stratum	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
353	0	0	140	195	173	0	0	244	96	251	3	1	0	0	254	370
354	0	366	111	382	351	0	167	102	141	223	341	1385	550	271	262	140
355	27	181	41	604	346	6	20	33	13	18	255	15	23	116	90	59
356	33	26	169	68	586	61	65	13	6	15	4	54	12	21	21	15
357	1357	102	140	121	366	91	76	191	56	172	19	89	403	416	121	83
358	35	86	194	3657	67	52	4144	295	440	1597	2091	4883	996	1579	686	394
359	41	14	252	656	6476	100	39	1111	2076	12863	109	8299	21377	30470	13082	29009
360	26	53	529	502	2609	199	281	856	591	1660	566	2403	39731	1477	83252	17866
374	1	0	10	0	0	0	0	0	2	0	0	11	0	0	14348	1995
375	0	18	22	0	0	11	12	1	0	302	38	454	0	19	1401	1305
376	0	23	67	100	4	0	77	69	86	749	77	1371	79	160	558	194
377	2	17	2	0	0	0	11	180	526	767	5821	2020	106	114	3961	6637
378	31	41	95	127	141	17	237	219	106	1046	1028	2472	8620	41129	891	265
379	38	74	47	387	88	230	40	205	51	57	28	21	506	360	165	28
380	3	20	314	67	56	3	9	67	231	73	34	186	34	496	245	3147
381	1	3	11	21	8	1	0	70	45	106	26	56	0	19	636	5664
382	0	10	1	20	4	1	0	14	29	22	0	4	0	92	17315	20152
721	123	4	471	156	25	6	54	13	0	0	0	7	6	0	0	28
722	2	0	0	7	0	0	13	0	0	0	0	0	0	0	0	0
723	146	59	229	276	8734	741	9	26	0	0	41	76	238	0	74	61
724	14	17902	0	8	65	549	115	0	0	0	0	0	0	0	0	0
725	239	376	125	43	12347	86	20	3	13	0	111	6	20	105	14	24
726	n.s.	33	5	58	11	7565	0	0	0	0	0	0	9	0	0	0
727	1	22	75	84	89	23	66	0	0	0	0	3	43	11	0	0
728	9	12	0	7	0	146	0	0	0	0	0	0	0	0	0	0
752	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
753	0	0	0	0	0	0	0	0	0	0	0	0	0	n.s.	0	0
754	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
755	n.s.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
756	0	3	2	4	0	0	0	0	0	0	0	0	0	0	0	0
757	0	0	0	0	0	584	0	0	0	0	0	0	0	0	0	0
758	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0
759	n.s.	0	0	0	0	0	0	0	0	0	n.s.	0	0	0	0	0
760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
761	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
762	0	0	0	0	0	3	0	0	0	0	n.s.	0	0	0	0	0
763	n.s.	0	0	27	0	0	0	0	0	0	n.s.	0	n.s.	n.s.	0	0
764	0	0	0	0	0	0	0	0	0	0	0	0	0	n.s.	0	0
765	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
766	0	0	0	0	0	0	0	0	0	0	n.s.	0	0	0	0	0
767	n.s.	0	0	0	0	0	0	0	0	0	n.s.	0	n.s.	n.s.	0	0
TOTAL	2131	19444	3054	7576	32548	10502	5455	3712	4509	19921	10592	23817	72757	76856	137378	87436
S.D.	1322	18206	655	2566	15903	7971	3016	848	1984	8109	5853	5221	40466	37369	54393	30292

TABLE 19.- Length weight relationships in the calculation of Atlantic cod biomass. The equation is $Weight = a(l + 0.5)^b$
Spanish Spring Surveys in NAFO Div. 3NO: 1997-2012.

	1997	1998	1999	2000	2001	2002	2003	2004
a	0.0102 Error = 0.2480	0.0061 Error = 0.0748	0.0048 Error = 0.0788	0.0060 Error = 0.0706	0.0048 Error = 0.0893	0.0057 Error = 0.1025	0.0046 Error = 0.0581	0.0052 Error = 0.0698
b	2.9387 Error = 0.0629	3.0671 Error = 0.0197	3.1313 Error = 0.0203	3.0822 Error = 0.0179	3.1198 Error = 0.0228	3.0783 Error = 0.0274	3.1370 Error = 0.0153	3.1107 Error = 0.0185
	R ² = 0.975 N = 431	R ² = 0.997 N = 687	R ² = 0.997 N = 430	R ² = 0.997 N = 877	R ² = 0.996 N = 488	R ² = 0.995 N = 678	R ² = 0.998 N = 516	R ² = 0.997 N = 656

	2005	2006	2007	2008	2009	2010	2011	2012
a	0.0052 Error = 0.0715	0.0058 Error = 0.0678	0.0059 Error = 0.0570	0.0047 Error = 0.0858	0.0052 Error = 0.0833	0.0051 Error = 0.0533	0.0047 Error = 0.0594	0.0057 Error = 0.1091
b	3.1238 Error = 0.0189	3.0965 Error = 0.0174	3.0762 Error = 0.0153	3.1341 Error = 0.0217	3.0937 Error = 0.0220	3.1215 Error = 0.0137	3.1390 Error = 0.0150	3.0934 Error = 0.0273
	R ² = 0.997 N = 612	R ² = 0.999 N = 1129	R ² = 0.998 N = 1011	R ² = 0.998 N = 1266	R ² = 0.996 N = 795	R ² = 0.998 N = 1007	R ² = 0.998 N = 1541	R ² = 0.994 N = 768

TABLE 20.- Atlantic cod length distribution per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. (*) indicates untransformed data.

Length (cm.)	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.013	0.000	0.009	0.011	0.000	0.000	0.000	0.000	0.015	0.000	0.000	0.020	0.000	0.000
10	0.000	0.000	0.011	0.000	0.000	0.039	0.000	0.408	0.088	0.014	0.416	0.000	0.009	0.095	0.026	0.000
12	0.000	0.010	0.010	0.006	0.000	0.030	0.054	2.141	0.722	0.008	4.160	0.000	0.111	0.248	0.026	0.012
14	0.000	0.025	0.205	0.020	0.000	0.000	0.065	1.542	1.129	0.014	8.177	0.013	0.132	0.321	0.013	0.037
16	0.000	0.011	0.741	0.124	0.021	0.040	0.028	0.828	0.644	0.013	4.890	0.057	0.190	0.098	0.026	0.049
18	0.000	0.007	0.774	0.115	0.019	0.007	0.037	0.186	0.245	0.007	1.020	0.910	0.055	0.082	0.000	0.024
20	0.000	0.004	0.287	0.211	0.103	0.000	0.061	0.063	0.036	0.041	0.070	5.006	0.225	0.023	0.025	0.012
22	0.000	0.002	0.478	0.285	0.184	0.083	0.062	0.076	0.094	0.367	0.024	8.175	0.448	0.067	0.060	0.034
24	0.002	0.005	1.173	0.241	0.175	0.096	0.075	0.119	0.224	0.948	0.008	8.532	0.847	0.241	0.110	0.019
26	0.002	0.009	1.740	0.319	0.194	0.139	0.150	0.219	0.515	3.595	0.000	6.053	2.145	0.672	0.167	0.059
28	0.013	0.028	1.251	0.385	0.216	0.153	0.189	0.141	1.044	5.313	0.041	1.953	5.742	1.469	0.240	0.089
30	0.013	0.037	0.525	0.417	0.132	0.284	0.243	0.162	1.151	3.854	0.086	1.112	12.908	1.661	0.118	0.264
32	0.051	0.028	0.172	0.327	0.162	0.312	0.087	0.149	0.551	1.710	0.317	0.301	19.091	1.894	0.732	0.555
34	0.087	0.030	0.096	0.438	0.380	0.524	0.067	0.330	0.393	1.102	0.442	0.152	15.295	4.813	2.015	0.801
36	0.142	0.022	0.070	0.559	0.923	0.596	0.071	0.421	0.189	2.258	0.729	0.176	16.078	12.069	3.541	1.047
38	0.184	0.026	0.090	1.038	1.787	0.572	0.121	0.420	0.129	5.496	0.925	0.539	8.529	15.752	5.037	2.665
40	0.108	0.105	0.086	1.030	3.363	0.689	0.081	0.217	0.135	5.305	0.881	0.962	4.828	23.565	5.450	4.911
42	0.066	0.075	0.031	0.897	3.463	1.005	0.078	0.248	0.113	4.004	0.885	1.337	2.320	18.257	7.059	6.423
44	0.106	0.365	0.047	0.473	4.234	1.141	0.117	0.101	0.097	2.317	0.788	1.617	2.777	10.659	16.735	6.058
46	0.073	0.603	0.025	0.307	5.028	1.483	0.111	0.110	0.136	1.054	1.632	1.683	4.296	7.370	20.782	5.256
48	0.091	0.931	0.045	0.183	5.686	1.090	0.175	0.077	0.173	0.487	2.035	1.327	3.909	2.918	19.274	7.065
50	0.043	0.963	0.044	0.137	4.959	1.058	0.225	0.060	0.101	0.279	1.748	1.465	7.314	1.642	17.802	7.811
52	0.074	0.924	0.063	0.099	4.098	1.111	0.298	0.088	0.128	0.276	1.412	1.556	3.843	1.028	12.962	7.273
54	0.087	1.499	0.106	0.109	3.195	0.895	0.390	0.072	0.026	0.227	0.651	1.750	3.711	2.065	7.130	7.583
56	0.142	1.537	0.081	0.069	1.224	0.691	0.428	0.065	0.028	0.231	0.401	1.537	5.611	1.682	4.865	6.798
58	0.124	1.764	0.113	0.136	0.693	0.223	0.322	0.110	0.012	0.256	0.262	1.104	3.879	2.262	3.304	5.188
60	0.195	1.026	0.130	0.101	0.532	0.370	0.306	0.074	0.055	0.229	0.094	0.624	2.342	1.679	1.725	3.408
62	0.114	0.540	0.098	0.065	0.181	0.126	0.183	0.093	0.078	0.204	0.054	0.348	2.164	1.158	2.314	1.889
64	0.088	0.505	0.072	0.152	0.032	0.005	0.227	0.104	0.092	0.114	0.079	0.280	0.701	0.659	1.340	1.106
66	0.111	0.163	0.049	0.134	0.047	0.057	0.098	0.063	0.089	0.098	0.056	0.241	0.459	0.523	1.239	0.639
68	0.014	0.271	0.067	0.101	0.014	0.000	0.093	0.071	0.077	0.092	0.096	0.075	0.867	0.881	1.276	0.612
70	0.029	0.157	0.019	0.137	0.015	0.061	0.085	0.042	0.093	0.074	0.037	0.075	0.123	0.635	1.359	0.492
72	0.004	0.193	0.013	0.104	0.028	0.007	0.027	0.031	0.083	0.096	0.029	0.121	0.129	0.496	0.745	0.208
74	0.013	0.136	0.018	0.142	0.012	0.000	0.011	0.033	0.078	0.071	0.012	0.087	0.129	0.123	0.345	0.352
76	0.002	0.086	0.011	0.066	0.017	0.002	0.015	0.030	0.079	0.121	0.042	0.056	0.060	0.373	0.388	0.249
78	0.003	0.080	0.008	0.034	0.022	0.000	0.010	0.017	0.056	0.051	0.029	0.031	0.011	0.136	0.373	0.145
80	0.006	0.079	0.015	0.073	0.039	0.000	0.027	0.036	0.047	0.103	0.008	0.038	0.029	0.129	0.313	0.063
82	0.001	0.038	0.005	0.032	0.013	0.000	0.000	0.009	0.018	0.057	0.036	0.051	0.077	0.065	0.283	0.055
84	0.003	0.000	0.004	0.044	0.000	0.011	0.025	0.003	0.006	0.041	0.000	0.086	0.015	0.115	0.173	0.059
86	0.001	0.048	0.012	0.026	0.021	0.000	0.008	0.000	0.022	0.041	0.000	0.057	0.019	0.106	0.136	0.054
88	0.000	0.042	0.010	0.021	0.003	0.007	0.002	0.022	0.014	0.013	0.000	0.030	0.013	0.183	0.114	0.063
90	0.001	0.000	0.000	0.016	0.011	0.000	0.000	0.008	0.014	0.039	0.015	0.024	0.008	0.050	0.090	0.091
92	0.000	0.003	0.019	0.020	0.000	0.000	0.000	0.009	0.000	0.005	0.000	0.000	0.000	0.000	0.039	0.060
94	0.000	0.000	0.000	0.005	0.003	0.000	0.000	0.013	0.000	0.000	0.000	0.026	0.000	0.043	0.072	0.012
96	0.000	0.000	0.005	0.003	0.012	0.000	0.008	0.000	0.000	0.026	0.000	0.057	0.000	0.016	0.026	0.021
98	0.000	0.000	0.005	0.003	0.008	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.000	0.000	0.025	0.036
100	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.008	0.013	0.013	0.000
102	0.000	0.000	0.000	0.010	0.000	0.000	0.008	0.000	0.000	0.014	0.000	0.019	0.000	0.020	0.013	0.020
104	0.000	0.001	0.000	0.000	0.000	0.011	0.000	0.027	0.000	0.014	0.000	0.026	0.000	0.020	0.000	0.005
106	0.000	0.000	0.000	0.005	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.013	0.000	0.020	0.013	0.000
108	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.008
112	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.000
114	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.020	0.043	0.000
116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000
118	0.002	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000
120	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
126	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
128	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	1.997	12.378	8.847	9.220	41.290	12.930	4.684	9.035	9.005	40.718	32.605	49.717	131.444	118.451	139.982	79.685
N° samples (*):	40	55	72	70	32	41	42	58	59	64	58	66	55	40	64	57
N° Ind. (*):	742	967	2770	2753	1591	1030	539	939	1126	2909	2301	4404	2746	1814	5197	5107
Sampled catch:	248	410	527	752	1107	776	654	554	778	2026	1115	3394	1417	1875	6381	6371
Range (*):	24-118	12-104	9-121	13-118	8-132	9-104	12-106	10-105	11-91	7-104	9-114	14-118	11-100	9-114	10-116	13-110
Total catch:	572	3873	613	1274	3487	2806	846	554	794	3994	2182	3907	9165	12406	15136	13497
Total hauls (*):	12															

TABLE 21.- Atlantic cod age numbers per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	0.000	0.050	1.417	0.438	0.012	0.116	0.127	5.042	2.791	0.068	17.443	0.013	0.382	0.844	0.158	0.139
2	0.295	0.090	4.966	1.501	0.870	0.353	0.787	0.737	2.056	9.716	1.390	22.132	1.395	3.916	1.044	0.582
3	0.447	0.321	1.259	4.224	9.807	2.224	0.307	1.576	2.291	21.021	3.207	10.082	75.621	8.244	17.247	9.744
4	0.259	4.990	0.205	1.423	25.281	6.372	0.476	0.555	0.699	6.814	7.054	8.630	12.523	88.964	13.567	19.041
5	0.225	4.772	0.561	0.300	4.047	3.344	1.772	0.286	0.173	1.721	2.642	7.505	28.430	4.025	92.174	4.811
6	0.480	0.897	0.261	0.754	0.739	0.487	1.079	0.408	0.169	0.324	0.490	0.306	11.774	7.651	2.998	38.647
7	0.205	0.650	0.086	0.395	0.374		0.084	0.343	0.329	0.309	0.117	0.445	1.039	4.300	8.983	4.186
8	0.081	0.446	0.020	0.066	0.120	0.023	0.004	0.033	0.447	0.359	0.148	0.109	0.173	0.123	3.381	1.860
9		0.127	0.018	0.011	0.003	0.005	0.036	0.019	0.049	0.312	0.063	0.183	0.019	0.230	0.216	0.545
10		0.034	0.045	0.051	0.004		0.012	0.022	0.002	0.046	0.036	0.220	0.017	0.020	0.025	0.060
11		0.001	0.005	0.049	0.004	0.005		0.013			0.011	0.092	0.016		0.036	0.038
12				0.008	0.021					0.028			0.044	0.118	0.089	0.009
13	0.004										0.004		0.011	0.016	0.056	0.018
14															0.009	0.005
15																
16			0.006													
17																
18	0.001															
19					0.009											
20																
Total	1.997	12.378	8.847	9.220	41.290	12.930	4.684	9.035	9.005	40.718	32.605	49.717	131.444	118.451	139.982	79.685

TABLE 22.- Atlantic cod mean length (cm) per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	24.50	15.48	17.27	19.27	11.11	13.67	14.36	14.23	15.14	13.45	15.01	14.50	14.99	14.26	17.28	16.90
2	37.57	29.74	25.63	27.96	25.86	26.58	26.99	25.82	28.25	28.10	18.79	23.42	24.11	29.75	30.18	31.15
3	40.76	40.31	32.20	38.57	41.21	36.38	34.75	37.53	32.67	37.16	38.74	27.25	34.26	36.73	40.31	40.56
4	48.37	52.17	43.64	45.68	49.50	46.04	44.65	42.17	45.45	43.30	47.93	46.57	38.48	41.70	46.63	46.22
5	55.16	57.93	57.53	57.18	51.93	54.01	55.38	54.55	51.01	54.08	51.96	55.13	52.09	50.43	49.70	53.15
6	61.00	63.23	64.01	67.27	56.83	61.33	63.21	62.71	55.93	61.29	60.27	65.44	58.90	60.59	56.02	54.56
7	62.94	70.22	71.24	74.72	65.90		67.68	71.36	70.67	69.49	64.17	66.11	61.82	67.50	64.34	56.10
8	69.04	75.36	76.15	82.35	71.93	84.06	76.50	72.78	73.95	77.04	71.06	81.59	69.55	74.96	71.67	70.19
9		79.22	75.90	87.04	98.50	104.50	99.47	77.67	75.99	80.39	77.69	82.06	85.91	85.55	84.98	80.76
10		87.91	92.79	88.66	84.99		85.50	93.16	84.50	89.18	79.01	93.88	86.22	105.50	88.82	80.63
11		104.50	97.50	92.61	107.80	104.50		105.50			81.81	91.09	85.70		95.87	96.45
12				97.45	108.04					103.36			86.58	102.88	99.54	89.50
13	105.23										114.50		81.50	97.45	109.24	99.19
14															95.50	104.50
15																
16			121.50													
17																
18	115.50															
19					132.50											
20																
Total	51.36	56.73	29.90	42.51	47.67	46.31	49.51	27.27	31.69	37.92	28.96	34.42	40.87	43.42	49.80	51.21

TABLE 23.- Atlantic cod mean weight (gr) per haul mean catches by sex and year. Number per stratified mean catches. Spanish Spring Survey on NAFO 3NO: 1997-2012. Indet. means indeterminate. 1997-2000 data are transformed C/V *Playa de Mendiña* data. 2002-2012 data are original R/V *Vizconde de Eza* data. For 2001 there are data from the two vessels.

Age	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	123.3	28.8	37.0	57.3	13.2	22.1	20.1	21.1	26.6	21.6	25.5	20.4	23.2	21.9	44.84	37.72
2	440.6	215.0	128.4	183.8	132.4	148.2	151.8	135.9	183.4	180.9	52.3	94.5	101.9	206.9	215.45	247.49
3	573.4	532.5	261.6	484.3	537.0	382.4	322.2	423.2	290.0	445.2	469.1	151.5	299.6	398.0	531.57	553.32
4	964.4	1152.8	690.2	799.8	953.2	776.6	712.1	617.7	823.4	687.4	898.2	822.5	427.1	593.5	830.01	833.02
5	1385.2	1578.5	1600.5	1576.3	1103.5	1253.0	1396.2	1355.2	1142.0	1393.9	1139.7	1383.1	1087.1	1071.6	1023.97	1276.90
6	1830.4	2053.0	2232.7	2636.6	1459.6	1846.1	2134.0	2146.9	1551.5	2021.9	1816.7	2329.7	1593.7	1911.1	1488.00	1396.66
7	2008.0	2857.4	3134.4	3647.8	2488.0		2598.1	3227.0	3229.4	3012.4	2252.9	2471.5	1839.5	2758.9	2382.33	1516.00
8	2624.0	3553.2	3909.4	4873.9	3321.8	4863.3	3730.8	3444.8	3671.9	4175.9	2991.4	4682.0	2667.9	3727.8	3272.56	3073.30
9		4105.1	3841.7	5757.4	7949.9	9361.0	8695.4	3969.6	3911.7	4771.7	3929.9	4829.9	5016.4	5557.4	5515.32	4748.10
10		5597.2	7009.8	6102.6	5075.9		5288.5	7534.5	5434.0	6492.7	4305.3	7430.2	5036.7	10478.0	6152.71	4802.54
11		9509.6	8117.3	7275.5	10613.0	9361.0		10226.7			4534.6	6686.3	4940.7		8548.72	7887.53
12				8236.0	10698.4					10028.8			5189.0	9980.2	8967.22	6228.85
13	9402.3										12747.3		4217.2	8195.7	12107.82	8629.63
14															7723.53	10059.49
15																
16			16168.7													
17																
18	11746.5															
19					20050.7											
20																
Total	1253.40	1573.59	396.74	922.28	892.16	862.60	1269.17	451.53	561.24	573.46	413.10	534.08	614.21	767.91	1108.40	1217.60

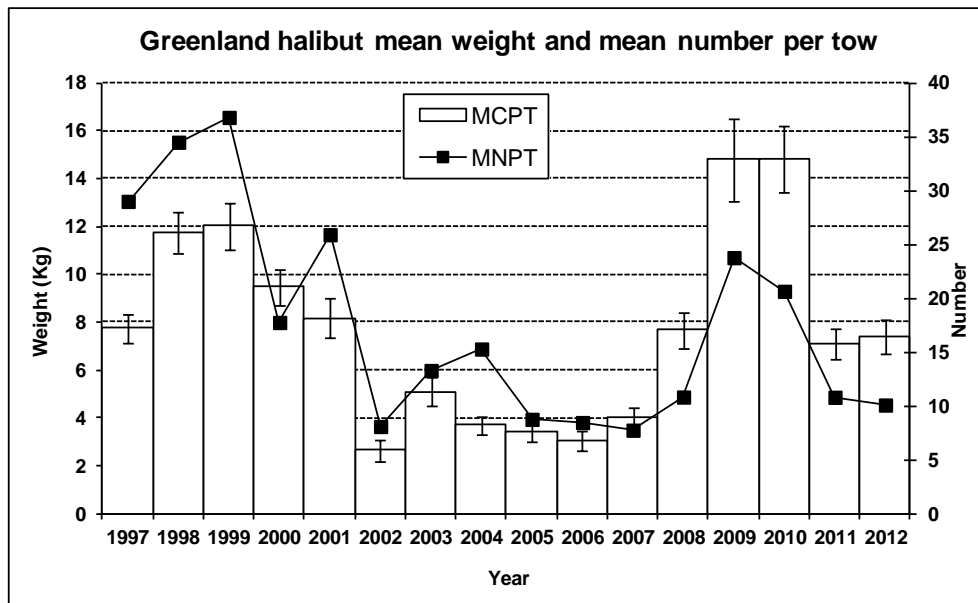


FIGURE 1.- Greenland halibut stratified mean catches in Kg and \pm SD by year and mean number by year. Spanish Spring surveys in NAFO Div. 3NO: 1997-2012 (1997-2000 transformed data from C/V *Playa de Mendiña*; 2002-2012 original data from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels).

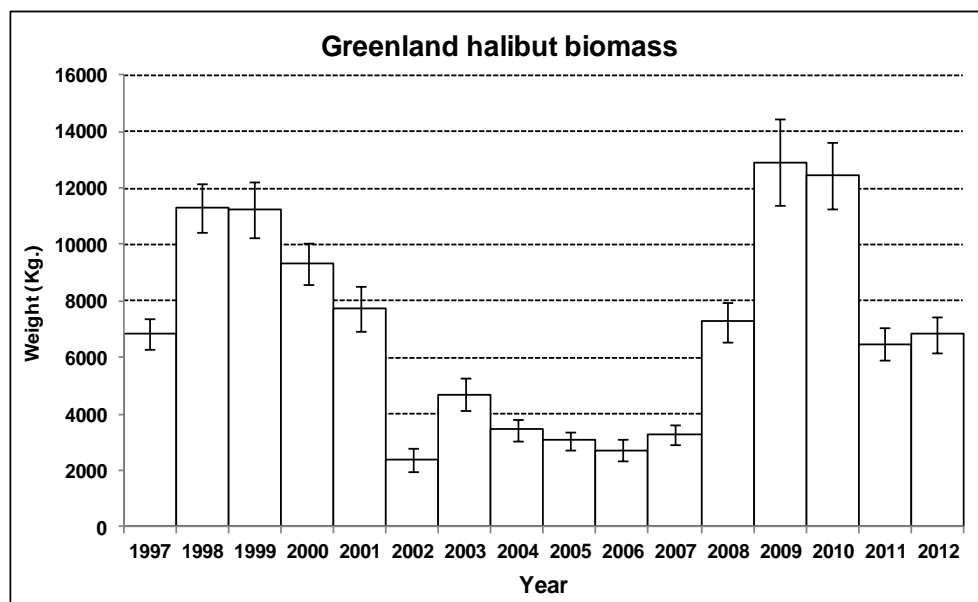


FIGURE 2.- Greenland halibut biomass calculated by the swept method in tons and \pm SD by year. Spanish Spring surveys in NAFO Div. 3NO: 1997-2012 (1997-2000 transformed data from C/V *Playa de Mendiña*; 2002-2012 original data from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels).

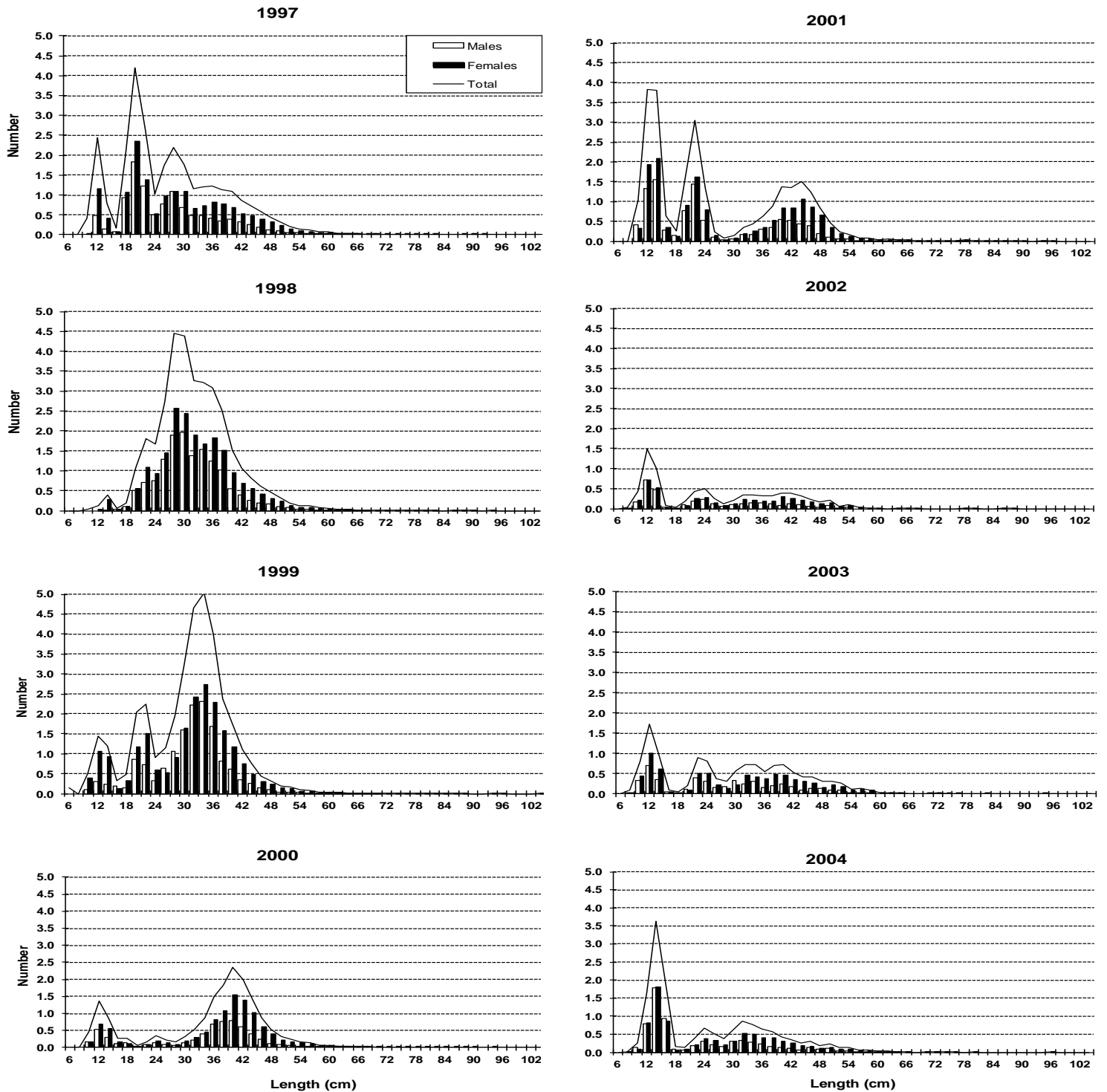


FIGURE 3.- Greenland halibut length distribution (cm) on NAFO 3NO: 1997-2012. Number per stratified mean catches. 1997-2000 data are transformed data from C/V *Playa de Mendiña*, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

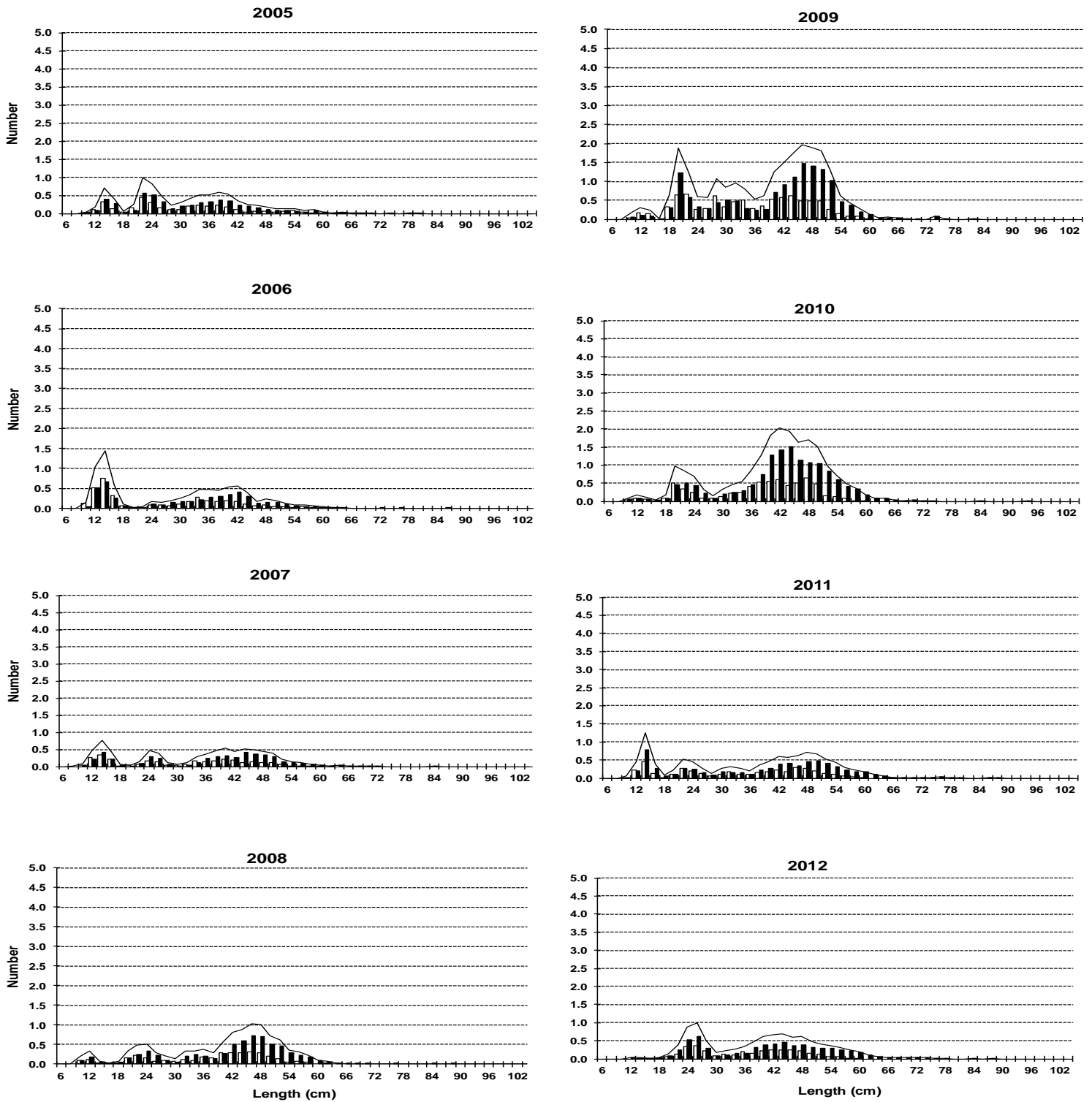


FIGURE 3 (cont.).- Greenland halibut length distribution (cm) on NAFO 3NO: 1997-2012. Number per stratified mean catches. 1997-2000 data are transformed data from C/V *Playa de Mendiña*, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

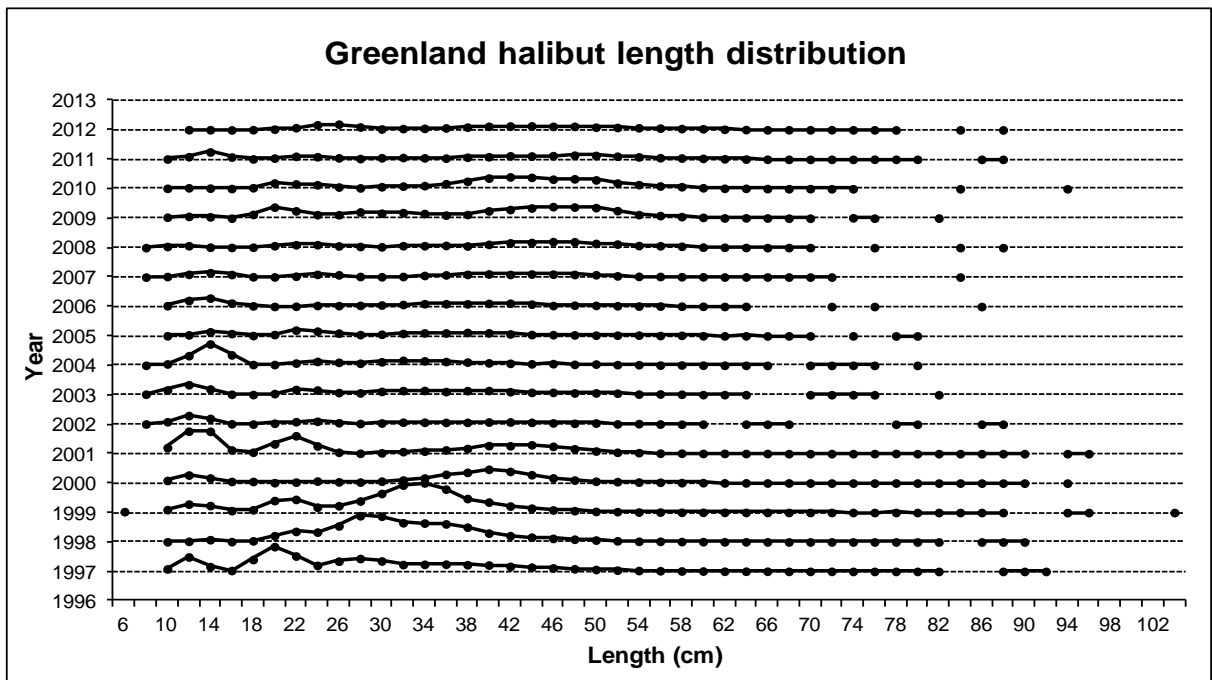


FIGURE 4.- Greenland halibut length distribution (cm) on NAFO 3NO: 1997-2012.

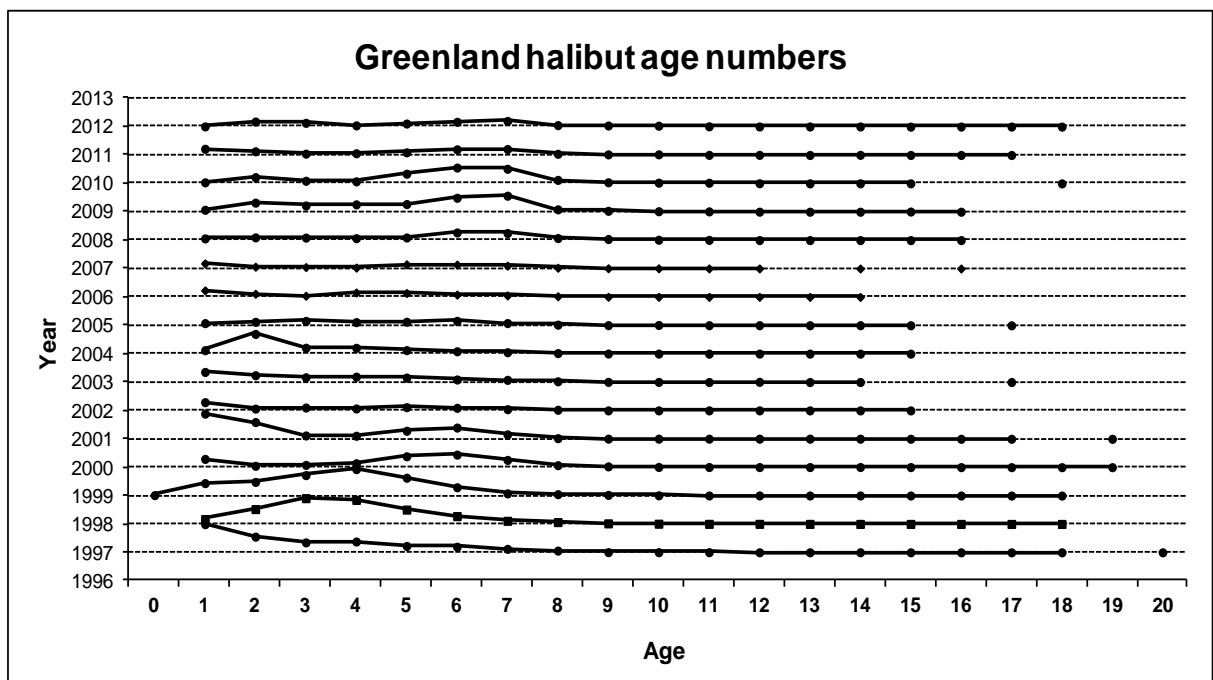


FIGURE 5.- Greenland halibut age distribution on NAFO 3NO: 1997-2012.

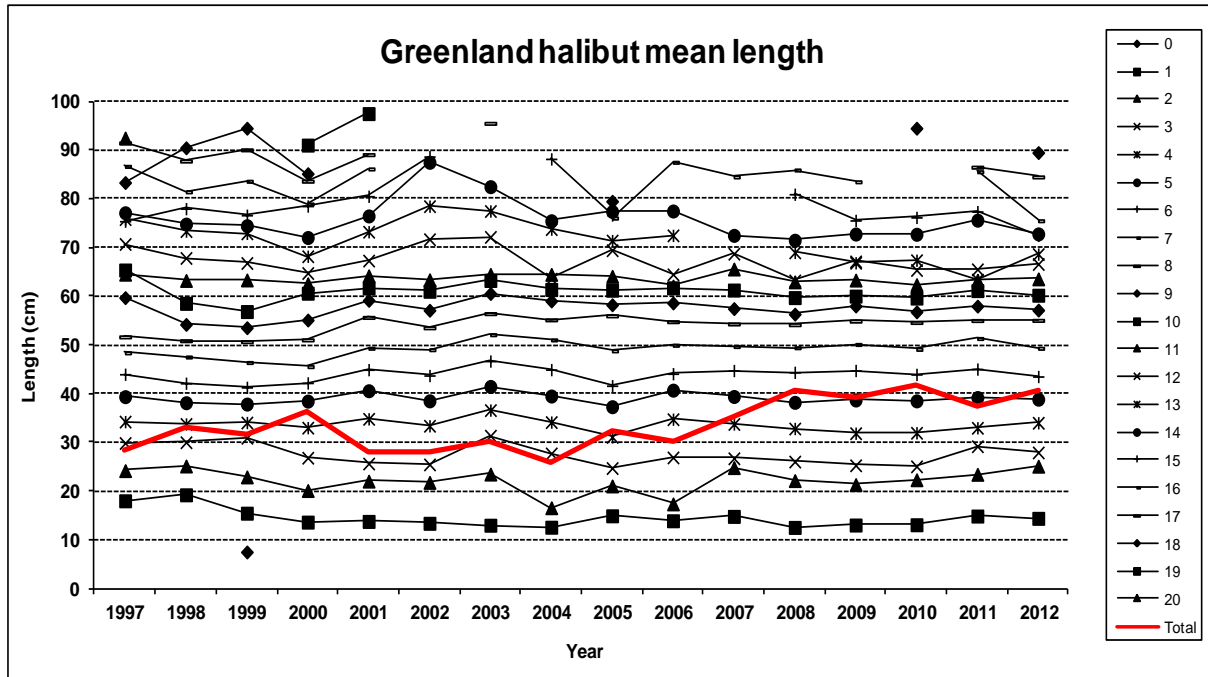


FIGURE 6.- Greenland halibut mean length (cm) at age on NAFO 3NO: 1997-2012. Ages from 0 to 14+.

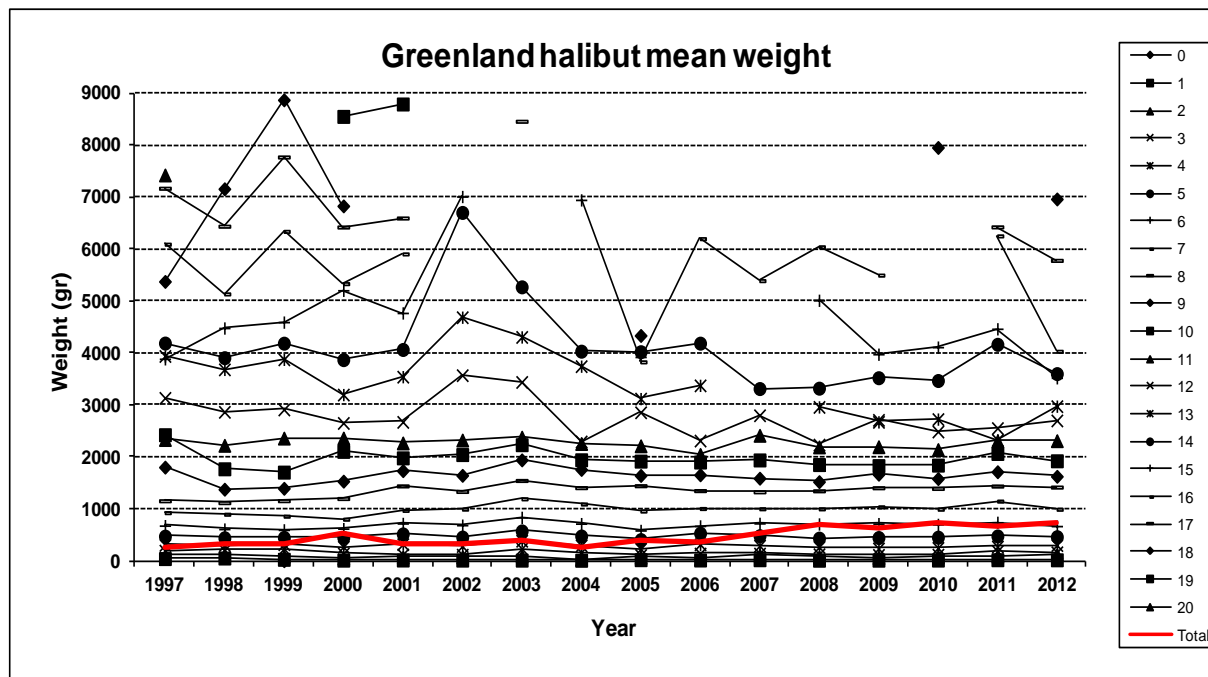


FIGURE 7.- Greenland halibut mean weight (gr) at age on NAFO 3NO: 1997-2012. Ages from 0 to 14+.

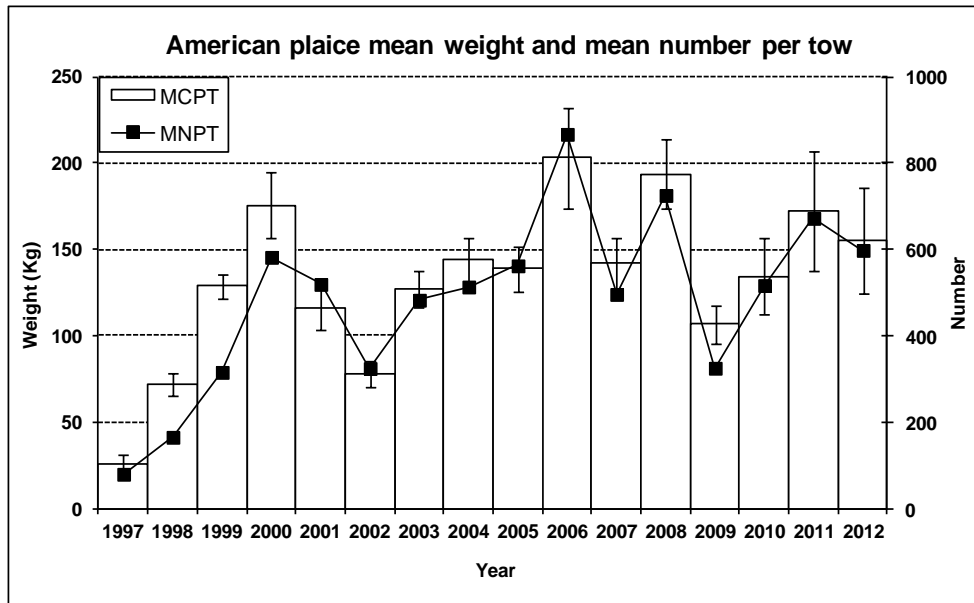


FIGURE 8.- American plaice stratified mean catches in Kg and \pm SD by year and mean number by year. Spanish Spring surveys in NAFO Div. 3NO: 1997-2012 (1997-2000 transformed data from C/V *Playa de Mendiña*; 2002-2012 original data from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels).

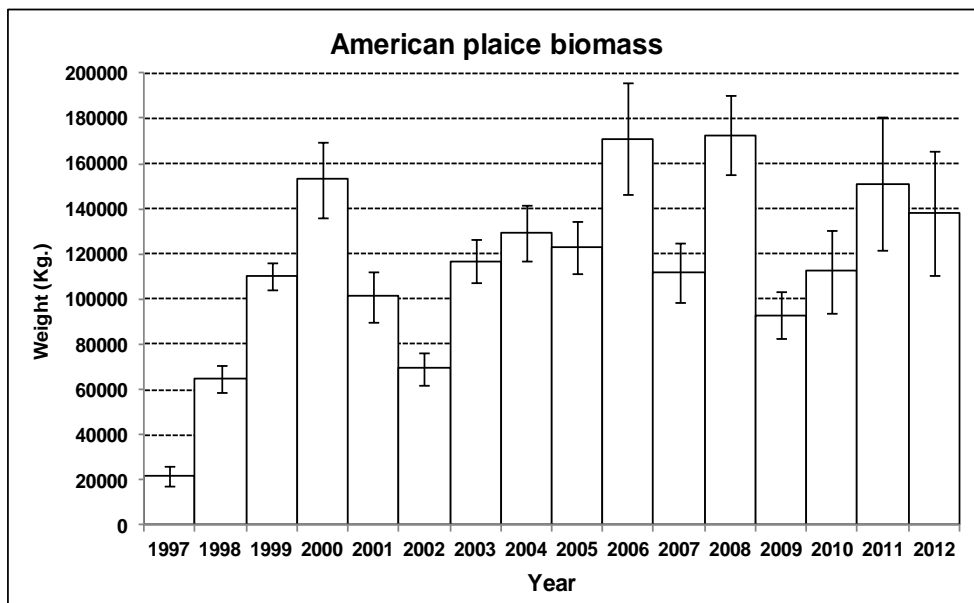


FIGURE 9.- American plaice biomass calculated by the swept method in tons and \pm SD by year. Spanish Spring surveys in NAFO Div. 3NO: 1997-2012 (1997-2000 transformed data from C/V *Playa de Mendiña*; 2002-2012 original data from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels).

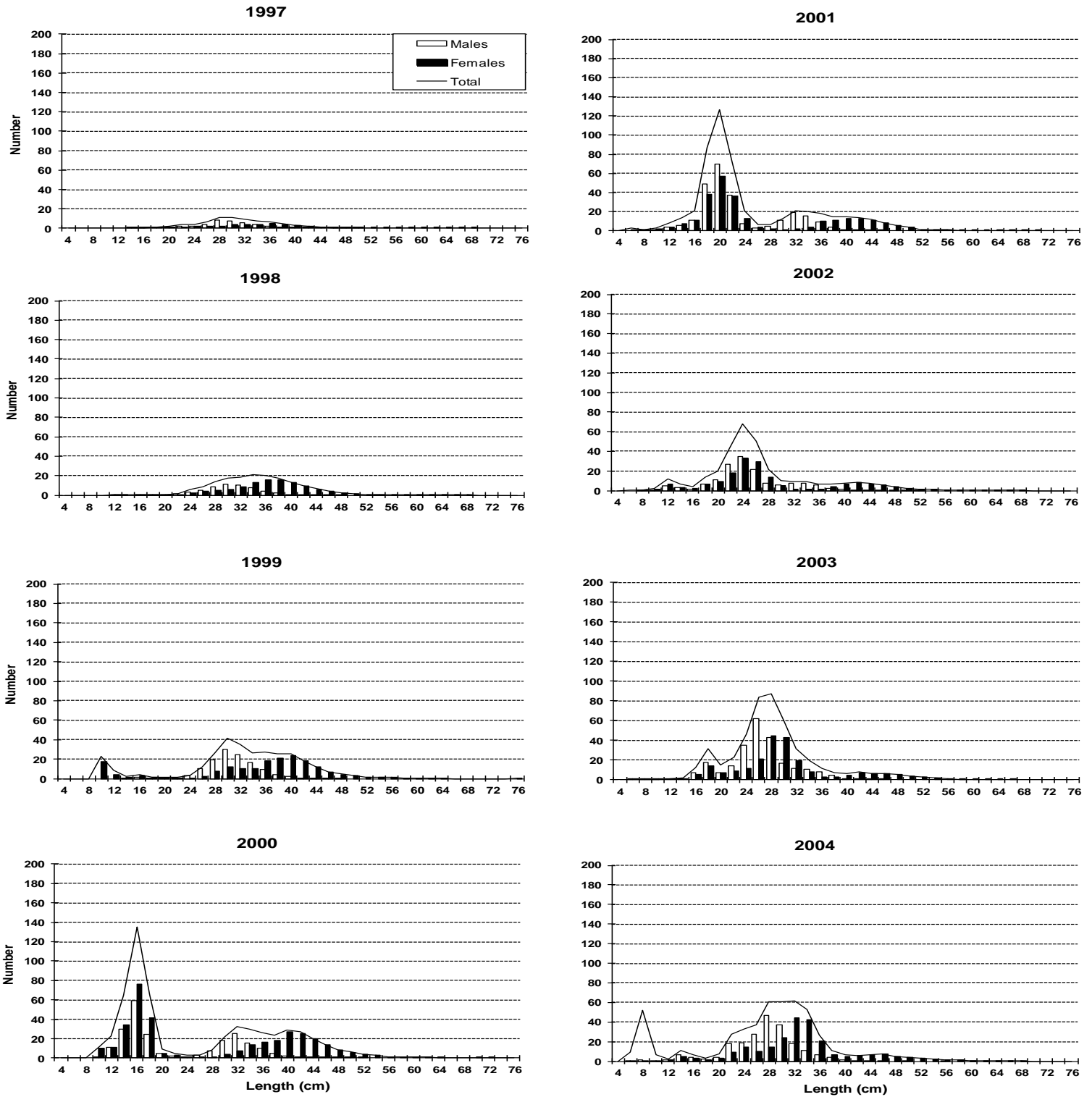


FIGURE 10.- American plaice length distribution (cm) on NAFO 3NO: 1997-2012. Estimated numbers per haul stratified mean catches. 1997-2000 data are transformed data from *C/V Playa de Mendiña*, and 2002-2012 data are original from *R/V Vizconde de Eza*. For 2001 there are data from the two vessels.

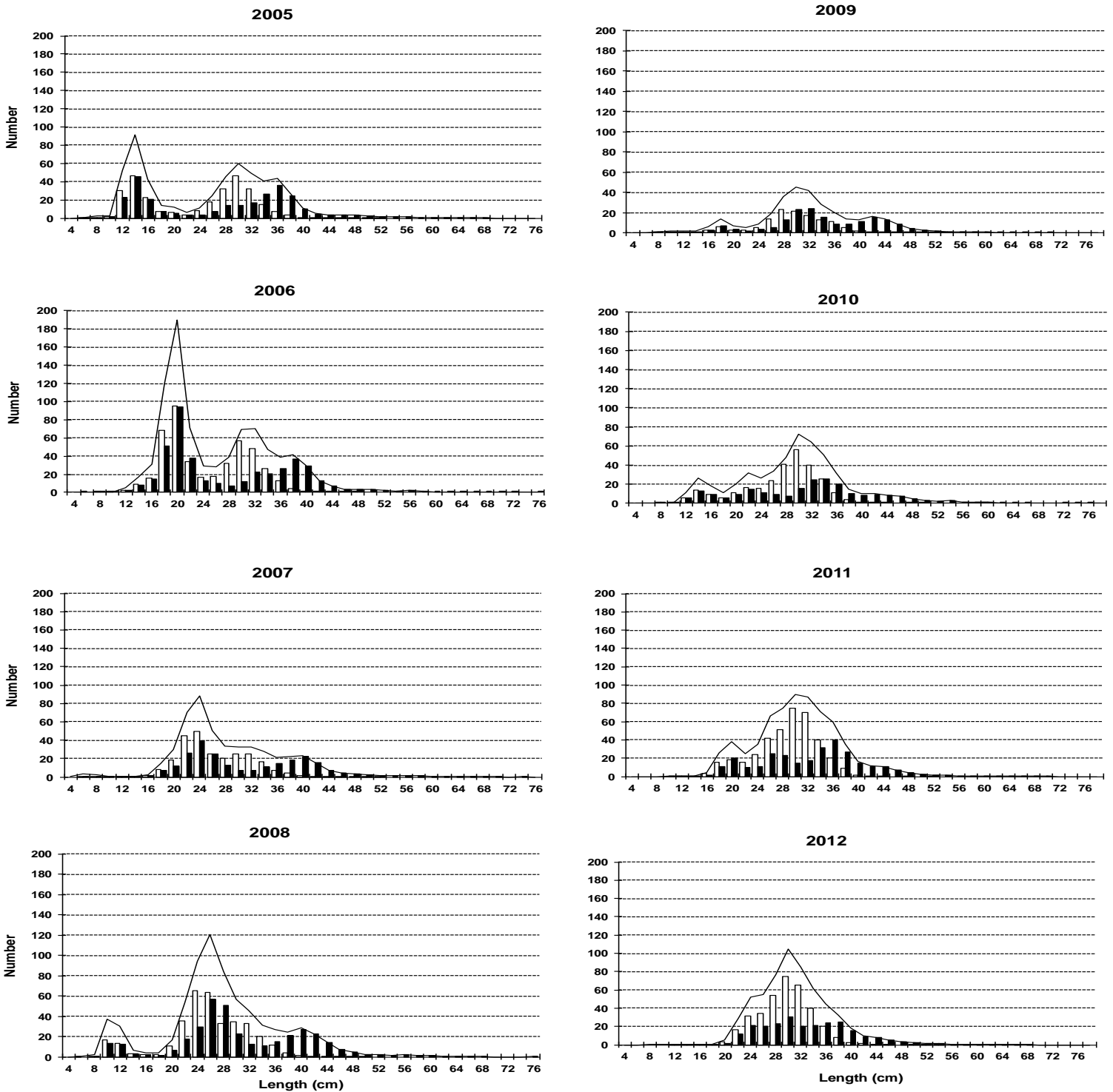


FIGURE 10 (cont.) .- American plaice length distribution (cm) on NAFO 3NO: 1997-2012. Estimated numbers per haul stratified mean catches. 1997-2000 data are transformed data from C/V *Playa de Mendiña*, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

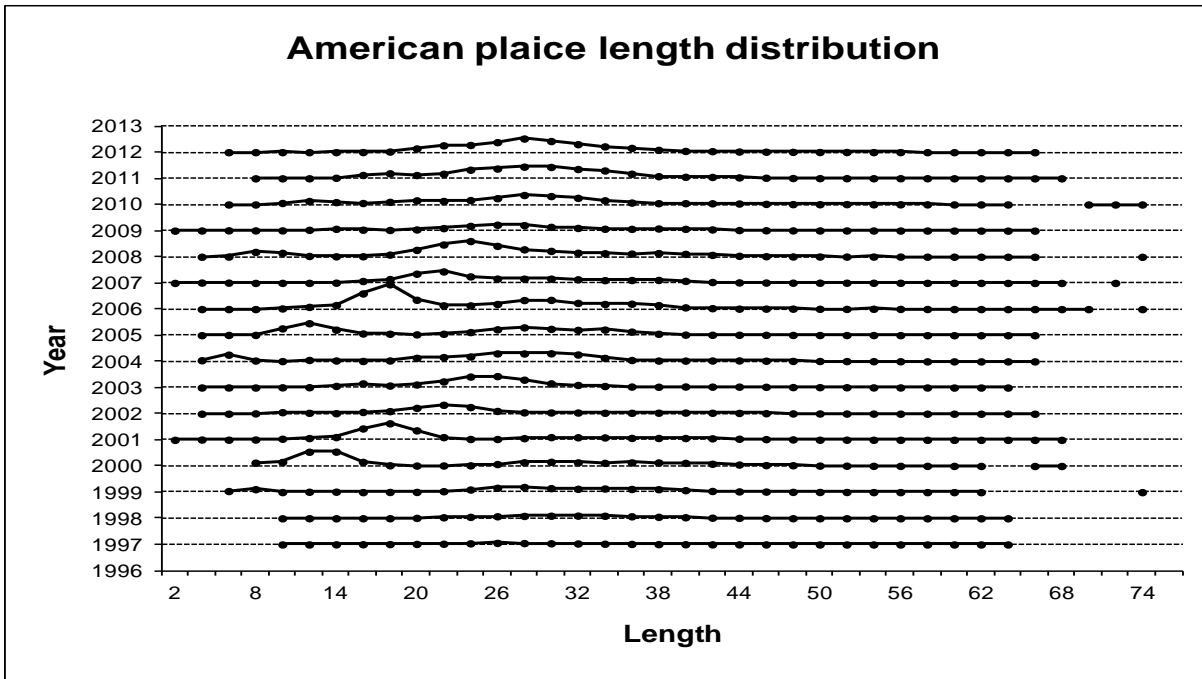


FIGURE 11.- Series of American plaice length distribution (cm) on NAFO 3NO: 1997-2012.

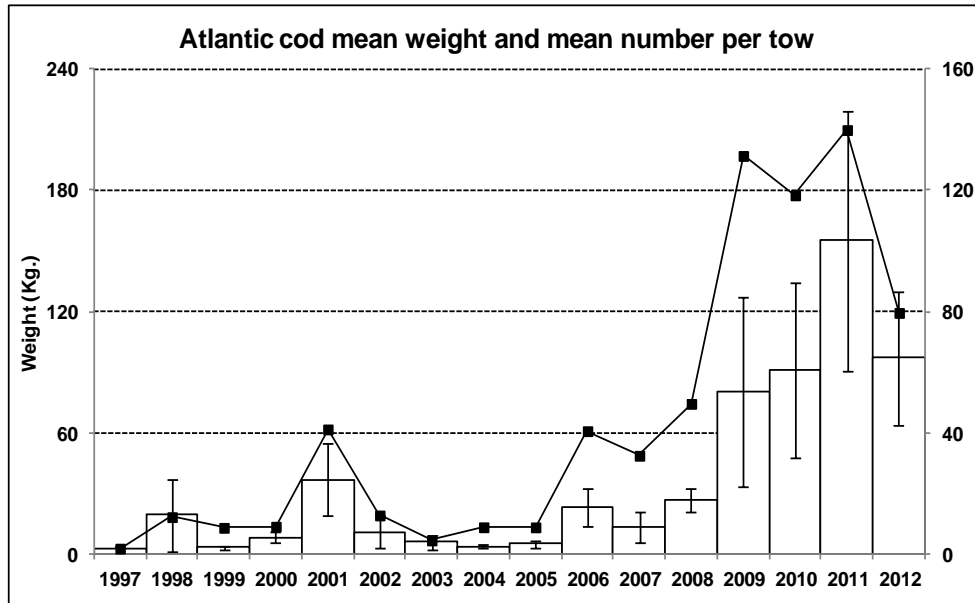


FIGURE 12.- Atlantic cod stratified mean catches in Kg and \pm SD by year and mean number by year. Spanish Spring surveys in NAFO Div. 3NO: 1997-2012 (1997-2000 transformed data from C/V *Playa de Menduña*; 2002-2012 original data from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels).

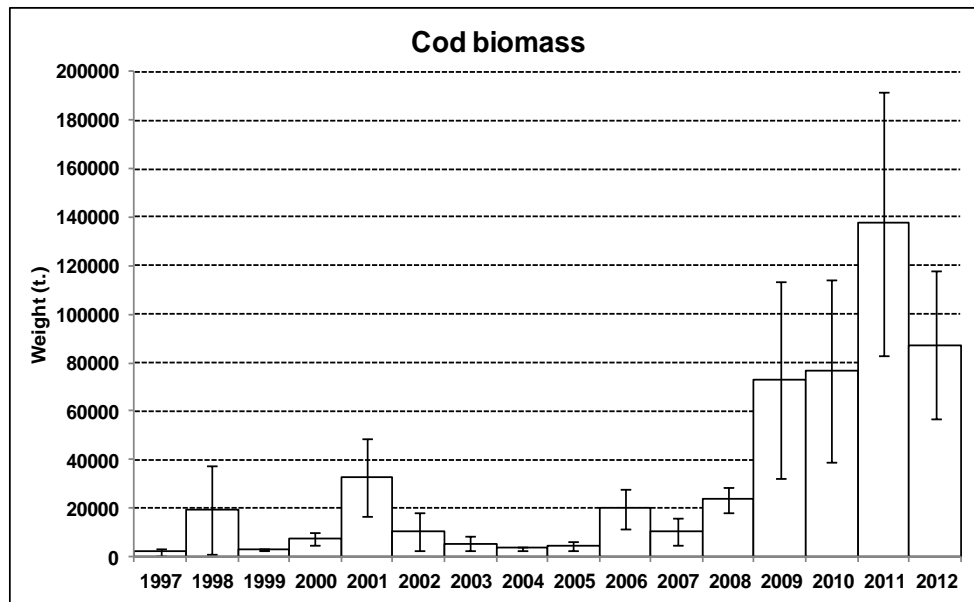


FIGURE 13.- Atlantic cod biomass calculated by the swept area method in tons and \pm SD by year. Spanish Spring surveys in NAFO Div. 3NO: 1997-2012 (1997-2000 transformed data from C/V *Playa de Menduña*; 2002-2012 original data from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels).

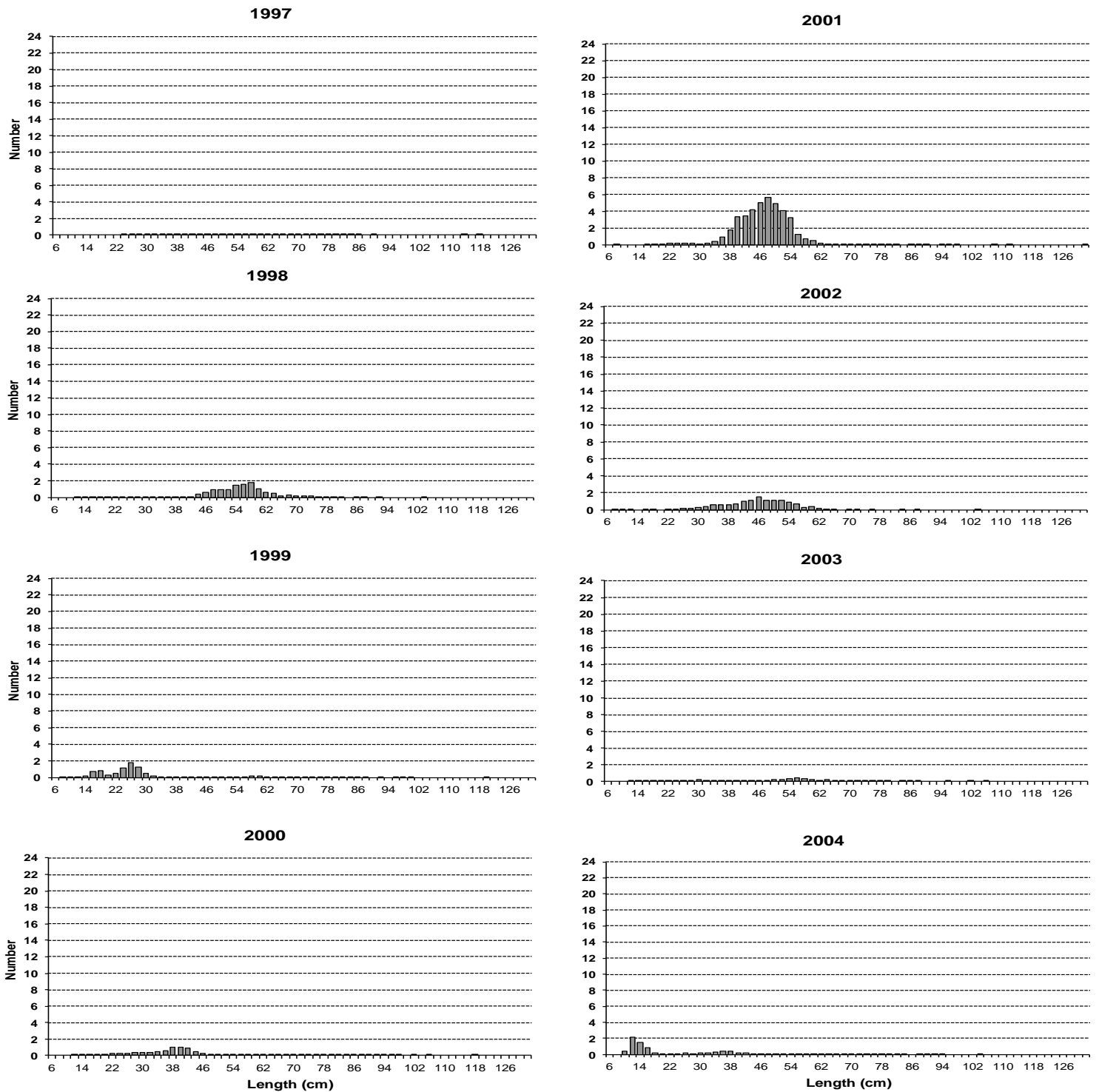


FIGURE 14.- Atlantic cod length distribution (cm) on NAFO 3NO: 1997-2012. Mean catches per tow numbers. 1997-2000 data are transformed data from C/V *Playa de Mendiña*, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

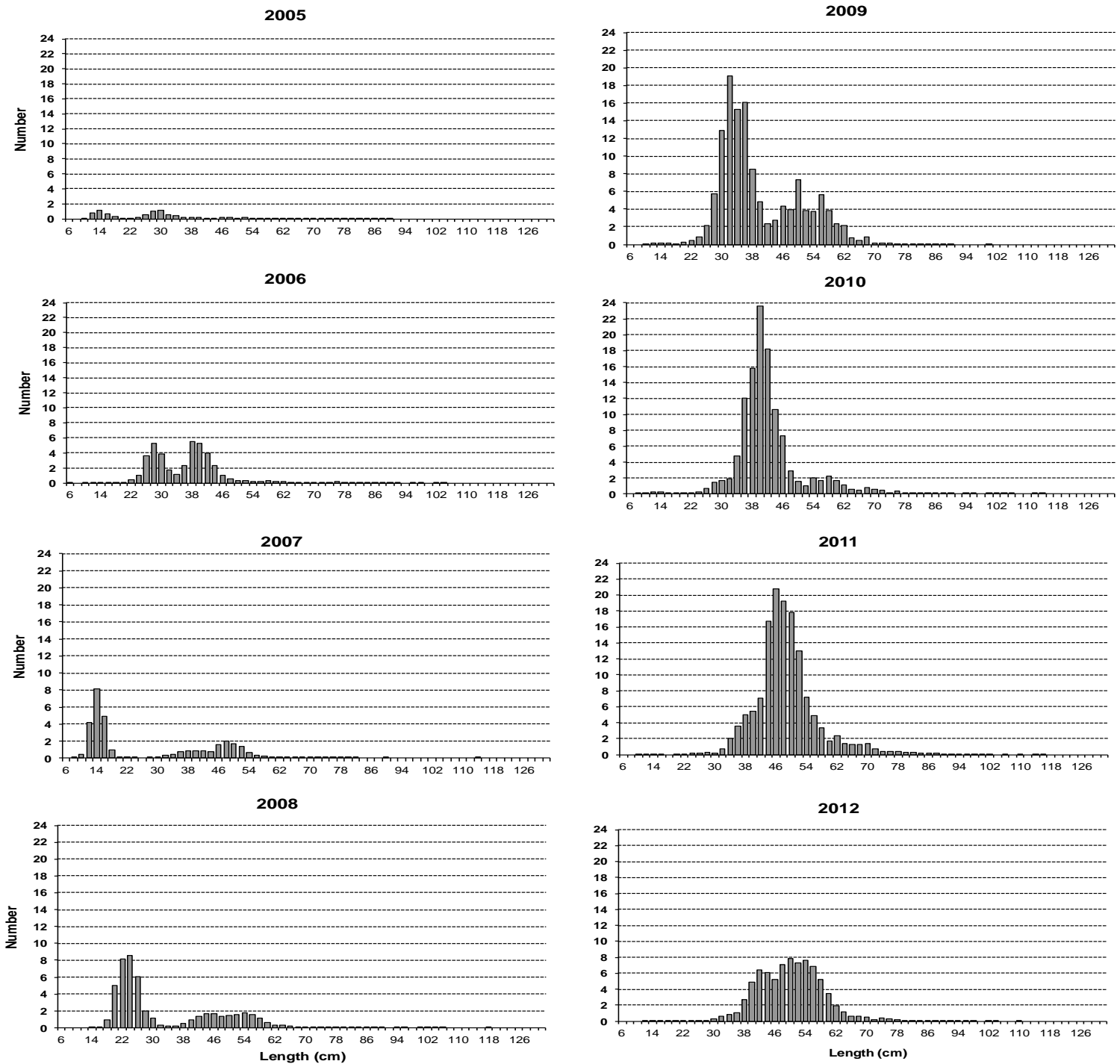


FIGURE 14.- Atlantic cod length distribution (cm) on NAFO 3NO: 1997-2012. Mean catches per tow numbers. 1997-2000 data are transformed data from C/V *Playa de Mendiña*, and 2002-2012 data are original from R/V *Vizconde de Eza*. For 2001 there are data from the two vessels.

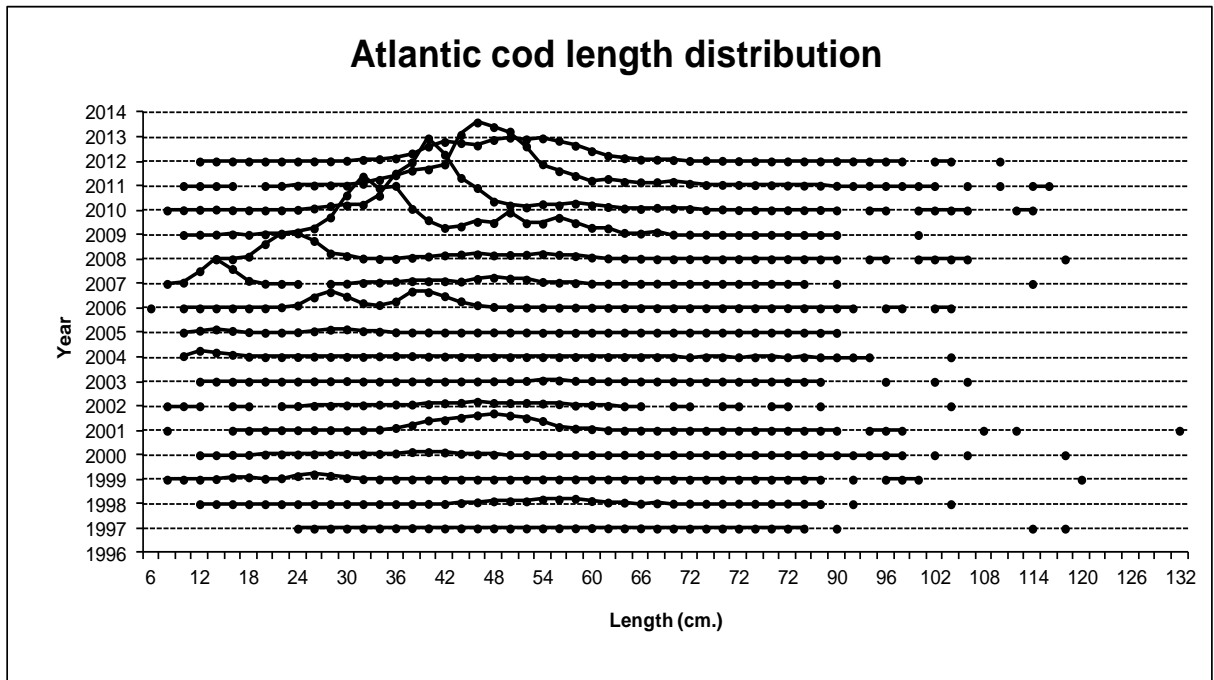


FIGURE 15.- Atlantic cod mean catches per tow length distribution (cm) on NAFO 3NO: 1997-2012.

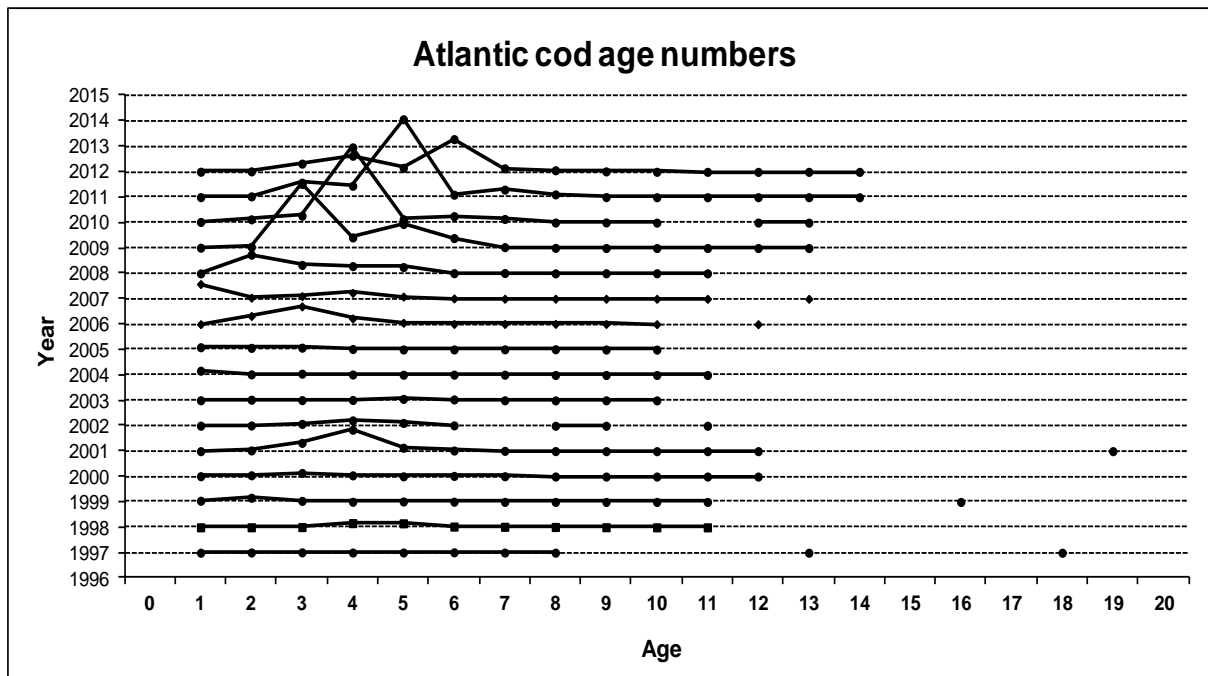


FIGURE 16.- Atlantic cod age distribution on NAFO 3NO: 1997-2012.

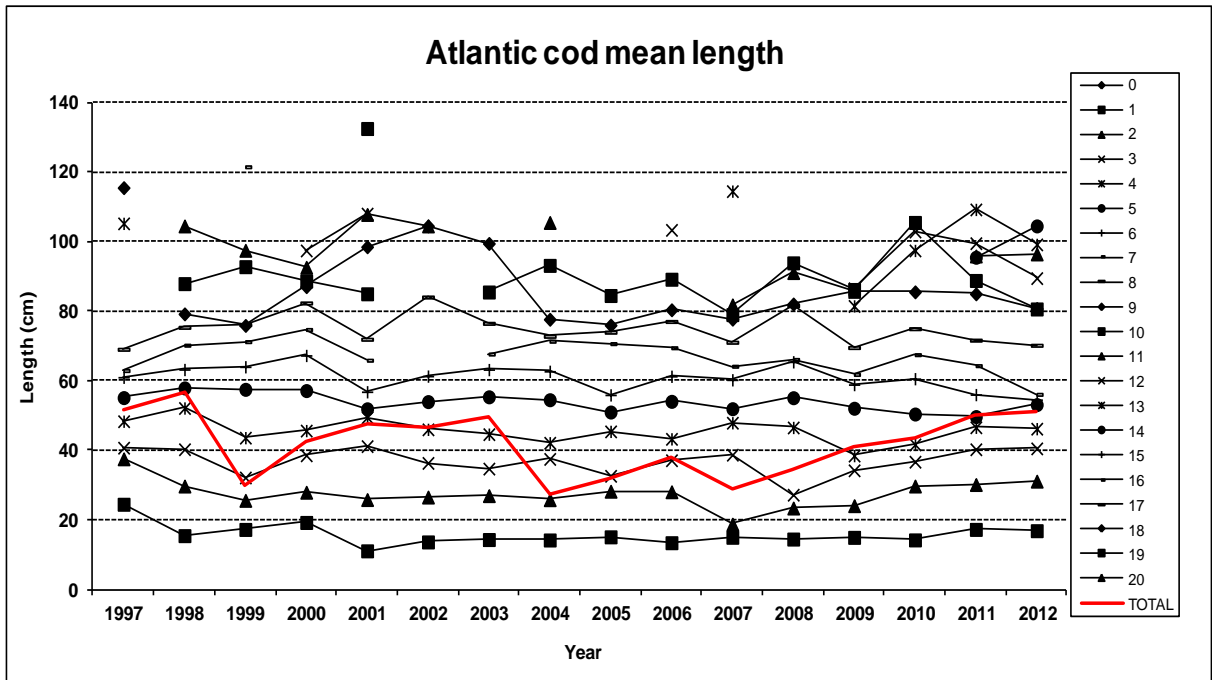


FIGURE 17.- Atlantic cod mean length (cm) at age on NAFO 3NO: 1997-2012. Ages from 1 to 20.

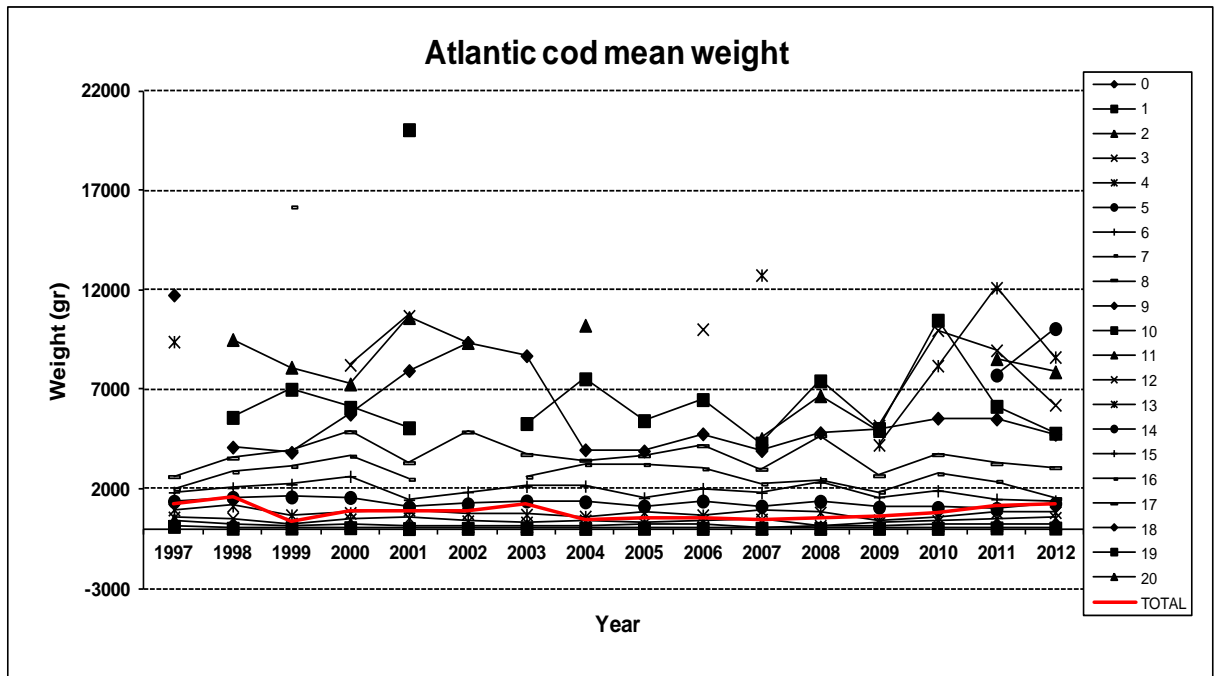


FIGURE 18.- Atlantic cod mean weight (gr) at age on NAFO 3NO: 1997-2012. Ages from 1 to 20.

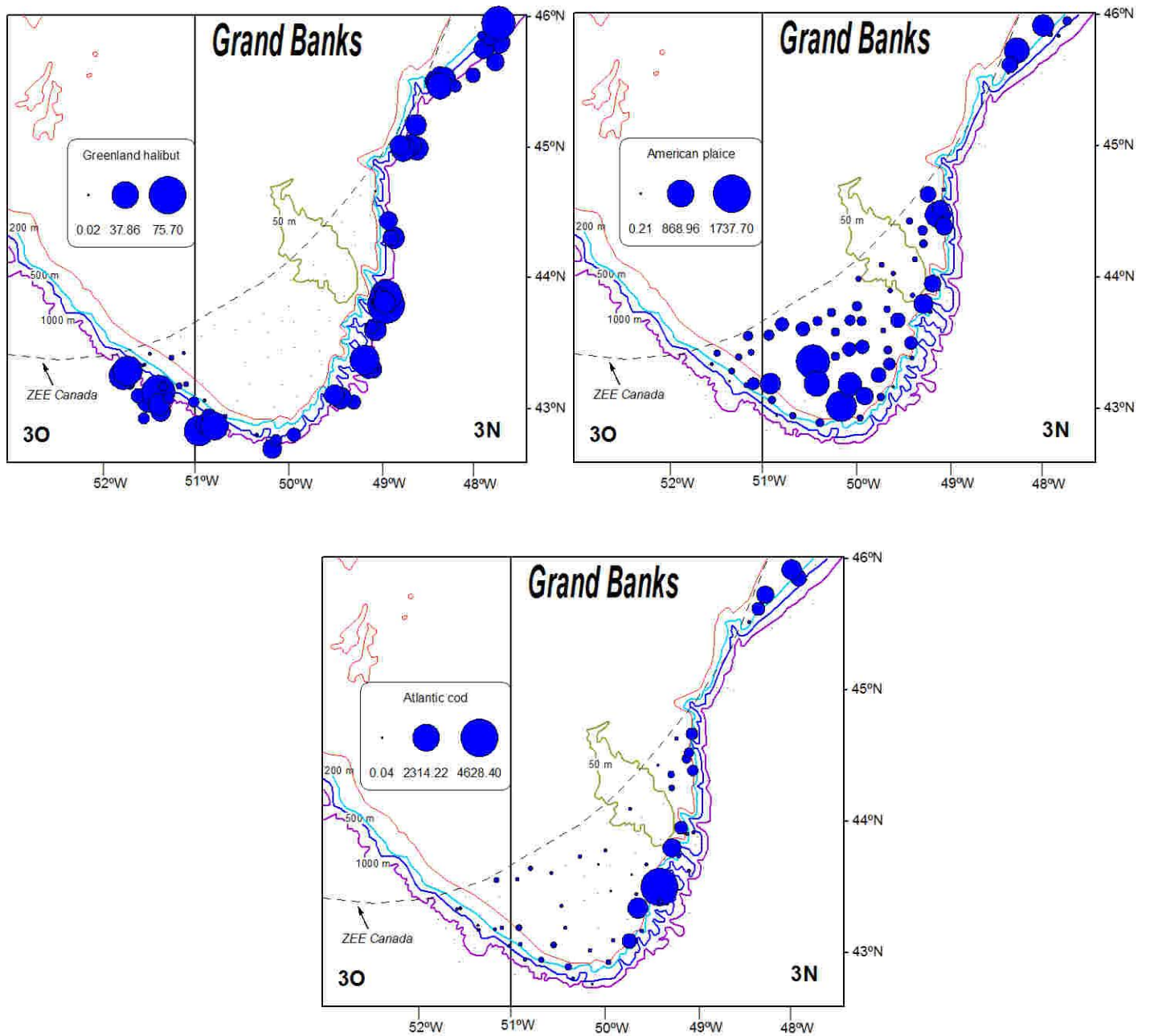


FIGURE 19.- Position of the hauls and the catch of Greenland halibut, American plaice and Atlantic cod during the 2012 Spanish 3NO survey